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# Stressful Factors in Mothers of Children with Cancer at El Ranteesy Pediatric Specialized Hospital -Gaza Strip

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# Stressful Factors in Mothers of Children with Cancer at El Ranteesy Pediatric Specialized Hospital -Gaza Strip

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## Thesis Approval

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# Dedication

To the first teacher of all peoples, prophet MOHAMMED (peace be upon him).

To my **Parents**, who I owe my life and success

To my Wife; **Reem**, who has been a great source of support and love.

To my sons **Yazan** and **Kareem** for their hopeful smiles.

To my Brothers and Sisters.

To all children and their families with cancer with my prayers for them to (heal) and have better health.

To everyone who contributed to getting this study a reality, thank you.

## Declaration

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

Signed:

Osman Khalid Habib

Date:…./…./….

## Acknowledgement

First, all praises and glory are due to ALLAH for all the bounty and support granted to me. This work would not be done without God's endless guidance and support.

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## Abstract

**Background**: Cancer among children is rising around the world, The burden of cancer is increasing worldwide each year, more than 200,000 children are diagnosed with cancer a disease that touches countless families and communities, mothers often play important role in providing care to their children who are ill. The success or failure of parents depends on their adaptation to crises regarding cancer is one of the most influential factors in predicting positive child and family stress adjustment to childhood cancer. The aim of the study to assess the effect of socio-demographic data and identify stressful factors that affect the mothers having a child with cancer in the Gaza Strip. **Methods**: The design of this study is a descriptive cross-sectional used interviewed questionnaire. The target population was all mothers having children with cancer from both sexes with different age groups. The sample consisted of 110 mothers chosen conveniently, conducted at El Ranteesy Pediatric Specialized Hospital is the specialized pediatric in Gaza Strip. Data were analyzed using the SPSS program version (22). **Results:** Results of the analysis showed that there is a strong positive statistically significant correlation between mothers stressors and all domain (P-value=0.000). The result showed that the mothers of a child with cancer that the total domain means percentage was perceived as highest rank stressors related to medical and nursing care 71.48% from study respondents and the lowest domain ranking physical stressors with percentages 56.74%. There was a statistically significant difference between child diagnosis and physical stressors, psychological stressors and financial stressors domains (P-value= 0.010, 0.050, 0.008) respectively. There was a statistically significant difference in the psychological stressors (P-value =0.036) and stressors related to medical and nursing care domain (P-value =0.033) which have a statistical relationship between mothers stressors and chronic disease. Furthermore, there was a statistically significant difference between mother Job and social stressors domain (P-value= 0.019). **Conclusion and recommendations:** The study concluded that the mothers having children with cancer who reported they had a high level of Stressors related to Medical and Nursing Care and Physical Stressors showed a lower level of mother stress. The researcher is suggested: Should arrange for educational programs for nurses to be aware of the mother's stressors and avoid its stressors. encourage mothers for coping effectively with their children's disease to maximize their level of coping and adaptation.



Keywords: Mothers, stress, stressful factors, childhood cancer, Gaza strip.

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## List of Abbreviations

| | |
|---|---|
| ACS | American Cancer Society |
| ALL | Acute lymphoblastic leukemia |
| APA | American Psychiatric Association. |
| CNS | Central Nervous System |
| CNS | Central Nervous System |
| DSM-5 | Diagnostic and Statistical manual of Mental disorders (5th ed.). |
| GS | Gaza Strip |
| IARC | International Agency for Research on Cancer |
| ICCC-3 | International Classification of Childhood Cancer, third edition |
| LE | Livre Égyptienne |
| MOH | Ministry of Health |
| NGO's | Non-Governmental Organization |
| PCBS | Palestinian Central Bureau of Statistics |
| PHIC | Palestinian Health Information Center |
| PTSD | Post-Traumatic Stress Disorder |
| RSPH | El Ranteesy Pediatric Specialized Hospital |
| SPSS | Statistical Package for Social Sciences |
| U.S | United State |
| UNICEF | United Nations Children's Fund |
| UNRWA | United Nations Relief and Works Agency |
| WHO | World Health Organization |

# Chapter One

## Introduction

## 1.1 Background

Cancer among children is rising around the world. As pediatric cancer rates have continued to increase in the past several decades, the American Cancer Society estimates about 10,270 children in the United States under the age of 15 will be diagnosed with cancer in 2017 (ACS, 2017). The burden of cancer is increasing worldwide each year, more than 200,000 children are diagnosed with cancer – a disease that touches countless families and communities (IARC, 2018). The total number of children diagnosed with cancer was 476 (6.6%) of the total cancer cases in the GS, 25.4% of children with cancer were diagnosed with Leukemia were 16.3% had brain tumor, 11.6% had lymphoma, 6.3% had bone cancer, 6.1% had neuroblastoma, 5% had nephroblastoma, 2% had rhabdomyosarcoma, 1.4% had retinoblastoma (Abdelaziz & Mona, 2017).

Mothers are reported to be more involved in the treatment of their children and in contact with medical professionals (Eiser & Varni, 2013). As a result of their close involvement, and of the time passing, mothers are believed to be more precise in their reports as proxies (Eiser & Varni, 2013). Mothers of children with life-limiting illnesses play an important and active role in the care that their children receive. They deal first-hand with the health care professionals (i.e. doctors, nurses, social workers) who are involved with providing information regarding care, including pediatric palliative care, and who recommend and administer such services. As well, mothers often play a significant role in providing care to their children who are ill. As a result, mothers are keenly aware of the needs of their children and have a unique understanding of the services their children are receiving (Ouellet, 2009).

Parents of children with cancer have reported that disruption in daily role functioning (including financial concerns, concerns about one's job, and having less time to spend with other family members), demands related to cancer caregiving, and communicating with others about cancer constitute significant and prevalent sources of stress (Rodriguez, et al, 2012). Parental socioeconomic status may affect both parents' own health and the health of their children. The causal mechanisms underlying the relationship between parental income and child's health may be linked to the ability to access material goods and

services necessary for the maintenance of themselves and child's health. In the same way, wealthier parents may be better able to provide safer environments for their children (Kollerud, 2016). Several studies have shown that a subset of these parents is also at increased risk for psychological distress, demographic factors that represent access to both material and social resources (Bemis, 2013). Some parents show high levels of stress and cannot feel sufficiently secure to trust the care provided by nursing and healthcare staff (Alves, et al, 2013).

## 1.2 Problem statement

One of the strongest causes of death for children under the age of 15 in the GS is cancer after accidents, Cancer cases are second in number in cases where they need a referral to complete treatment, which requires state expenditure (PHIC, 2015). For every 10,000 children in the US, 1-2 children develop cancer. Pediatric cancer is the leading cause of death by disease among U.S. children between infancy and age 15 (ACS, 2017). Emotional distress is another common adverse psychological outcome in pediatric cancer patients and their family members. Distress in the cancer patient may result from the child's internal feelings of losing control and their feeling of loss associated with the lack of social interactions with peer and siblings (Zomerlei, 2015).

The success or failure of parents depends on their adaptation to crises regarding cancer is one of the most influential factors in predicting positive child and family psychosocial adjustment to pediatric cancer. Improving the understanding of the processes contributing to augmented parent adjustment is perhaps the best way to improve the entire family's wellbeing following a diagnosis of pediatric cancer (Zomerlei, 2015).

## 1.3 Justification

The mother appraises her current role as a parent and that evaluation determines the level of stress the mother experiences. Parental stress is an important aspect of family adjustment and adaptation response (Bigalke, 2015). However, As I am a pediatric nurse in frequent contact with mothers experiencing more stressful factors. Many of these children and their mothers rely heavily on me. So, I have a unique role in providing this direct care and also in educating the mothers and less experienced staff, in stresses assessment and management. Mothers stress of a child with cancer in an Arab Muslim community is still not clear and has not been a focus of research in GS. Therefore, exploring perceived stress

in mothers of a child with cancer in such a community will enable healthcare providers to understand the stressful factors of mothers having child cancer, their needs, and problem.

Mother stress, has been linked to anxiety, and general distress in parents, and to negative child adjustment (Wolfe-Christensen, et al, 2010). Due to the multitude of negative outcomes associated with mother stress, more research is needed to identify potential predictors of mothers stress which may significantly determine the stressors factors by mothers when a child is diagnosed with cancer.

## 1.4 Aim of the study

The overall aim of this study is to determine the stressful factors of mothers having children with cancer at El Ranteesy Pediatric Specialized Hospital.

## 1.5 Objectives

- To identify stressful factors that affect the mothers having a child with cancer.
- To assess the effect of socio-demographic data on mothers stressors having a child with cancer.
- To suggest recommendations for ways of minimizing the stressful factors for mothers having a child with cancer.

## 1.6 Research questions

1. Is there a relationship between stressful mothers and social factors?
2. What are the most important stressful factors that affect mothers having a child with cancer?
3. Is there a relationship between stressful mothers and physical factors?
4. Is there a relationship between stressful mothers and psychological factors?
5. How the stressors affect the mothers having a child with cancer?
6. Is there a relationship between stressful mothers and financial factors?
7. What are the types of stressful factors affect mothers who have a child with cancer?
8. Is there a relationship between stressful mothers and Stressors related to Nursing Care?

## 1.7 Context of the study

### 1.7.1 Demographic context

The GS is located along the coast of the eastern Mediterranean Sea stretches over a distance of approximately 45km from Beit Hanoun city in the north to Rafah city in the south. Its width varies between 7 and 12km and the total area is about 365 km (Abdalqader, 2011). After the end of the First World War, historical Palestine was placed under the British Mandate and from 1948 to 1967 The GS was under the Egyptian Administration, then it was occupied by the Israeli army in June 1967.

Then according to Oslo agreement the Israelis officially handled the GS to the Palestinian Authority in 1994 with partial autonomy that lead to improvement of the social and economic status of the Gaza people till the setting up of Intifada in 2000 where the political and socioeconomic situation started to deteriorate and reached to the maximum disaster in June 2007 where a terrible event occurred "the internal division" and Gaza people started to suffer from its sequences; a tight siege has been imposed on the GS to control borders, movement of goods and travellers and form that terrible event Israel launched three large scale aggressions on the GS which resulted in thousands of deaths and injuries among people and damage of thousands of houses, manufacture compounds, agricultural resources. So, did this difficult situation affect our people perception and relationships in work that they prefer more social work environment or because of successive life disasters, people genes were affected that reflect their readiness to participate in many social interactions and dynamics at organization (El Shaer, 2015).

Recent reports indicate that the GS is among the most densely populated areas worldly. According to the Palestinian Central Bureau of Statistics (PCBS), the total number of the Palestinian population residing in the GS at the end of 2016 is around 1.91 million (PCBS, 2017).

### 1.7.2 Health care system

The health care system in Gaza is composed of primary, secondary and tertiary care. Service providers include the Ministry of Health (MOH), United Nations Relief and Works Agency (UNRWA), Non-governmental organizations (NGO's), Ministry of Interior and the private sector. With such multitude of service providers, there are numerous challenges in providing a well-coordinated, standardized health service provision during "normal" times and frictions are deemed to exacerbate during emergencies (WHO, Health Cluster, 2014).

World Health Organization considers responsiveness of health care systems for people legitimate expectations for non-health improving dimensions of their interaction with health care system as an important indicator for evaluating their performance. WHO reveals that Responsive health care system protects people from catastrophic impacts of illness and assures protection of people dignity. Systems that are more responsive to what people want and expect can also assure better utilization of health care services as people anticipate being treated well.(WHO, 2000).

### 1.7.3 El Ranteesy Pediatric Specialized Hospital

Is the only specialized pediatric in GS, care of children with chronic disease. Building on an area about 2800m and located in Al Nasser Street in Gaza City. Started work on April 23, 2008. It consists of three floors and the ground. On the first floor, there are Emergency, pediatric intensive care unit, dialysis and outpatient departments in addition to laboratory and radiology departments. The second floor includes five departments there are Oncology, Cardiology, Nephrology, Neurology and Gastroenterology departments. The last floor is the basement floor there are director's offices. The hospital contains 56 beds, the service provided by the hospital for oncology department. Oncology department moved from Al Nasser Pediatric Hospital to RSPH since hospital opening, it consists of five rooms, three isolation rooms with one bed and two with five beds (ELRSPH, 2017).

## 1.8 Operational definitions

### 1.8.1 Stressful factors

Are described as acute or chronic. A stressor is any adverse experience physiological, psychological or social, that causes a stress response. The stressor must be perceived as stressful by an individual to activate the stress response. There are individual variations as to what is perceived as stressful and research shows that humans can imagine stressors and experience the same physiological arousal as from external environmental stressors (AP Psychology Community, 2016). were measured by the number of different factors people reported as being stressful.

### 1.8.2 parenting stress

Parenting stress has been associated with a number of negative consequences, both for the children and for the parents. High levels of parenting stress have been linked to suboptimal maternal attitudes and mother-infant interactions, insensitivity to infant cues, and insecure infant-mother attachment relationships (Woodman, 2012). Research on parenting stress has focused almost exclusively on mothers, Mothers reported greater involvement in daily caregiving (Woodman, 2012). were measured by the level of stress a parent (mother) is experiencing based on a series of interview answers for 6 different domains.

### 1.8.3 Cancer

Cancer is a generic term for a large group of disease that can affect any part of the body. Other terms used are malignant tumors and neoplasm, which is the major cause of death from cancer (WHO, 2017a).

### 1.8.4 Child

According to the convention on the right of the child, a child means every human being below the age of 18 years, unless under the law applicable to the child, majority is attained earlier (UNICEF, 2014).

# Chapter Two

## Literature Review

## 2.1 Conceptual framework

The proposed framework for this study is illustrated in Figure 2.1. The framework shows determinants of stressful factors in mothers of children with cancer.

## 2.2 Definition of childhood cancer

A term used to describe cancers that occur between birth and 15 years of age. Childhood cancers are very rare and may differ from adult cancers in the way they grow and spread, how they are treated, and how they respond to treatment. Common types of childhood cancer include leukemia (begins in blood-forming tissue such as bone marrow), lymphoma (begins in the cells of the immune system), neuroblastoma (begins in certain nerve cells), retinoblastoma (begins in the tissues of the retina), Wilms tumor (a type of kidney cancer), and cancers of the brain, bone, and soft tissue. Also called pediatric cancer (National cancer institution, 2019).

## 2.3 Childhood cancer

Childhood cancer is rising around the global. The burden of cancer is increasing worldwide with 14 million new cancer cases yearly and 8.2 million cancer deaths occurring in 2014 (Abdelaziz & Mona, 2017). According to Palestinian Cancer registry in Palestine, the number of cancer cases in the period 2009-2014 was 7069 cases (MOH, 2014). According to MOH report at year 2009-2014, the total number of children with cancer was 476 cases in the Gaza Strip. A childhood cancer diagnosis is an emotional shock, and right from the beginning children and their families struggle for understanding and assimilation of medical information and treatment procedures.

Physical pain related either to cancer itself or to medical procedures, and side effects predominate in children's everyday life. The newly formed picture of their life after the diagnosis includes surgeries, hospitalizations, frequent medical visits, injections, vein punctures, infections, nausea, vomiting, ingestion and digestion problems, weight and hair loss, weight gain, weakness and fatigue (Stevens, et al, 2012).

Changes in their physical appearance and in their emotional state are followed by experiences of social isolation. Separation from parents and family during medical procedures and due to long lasting hospitalizations is very often inevitable and the basic trust is affected by the painful treatment experiences (Xenaki, 2015).

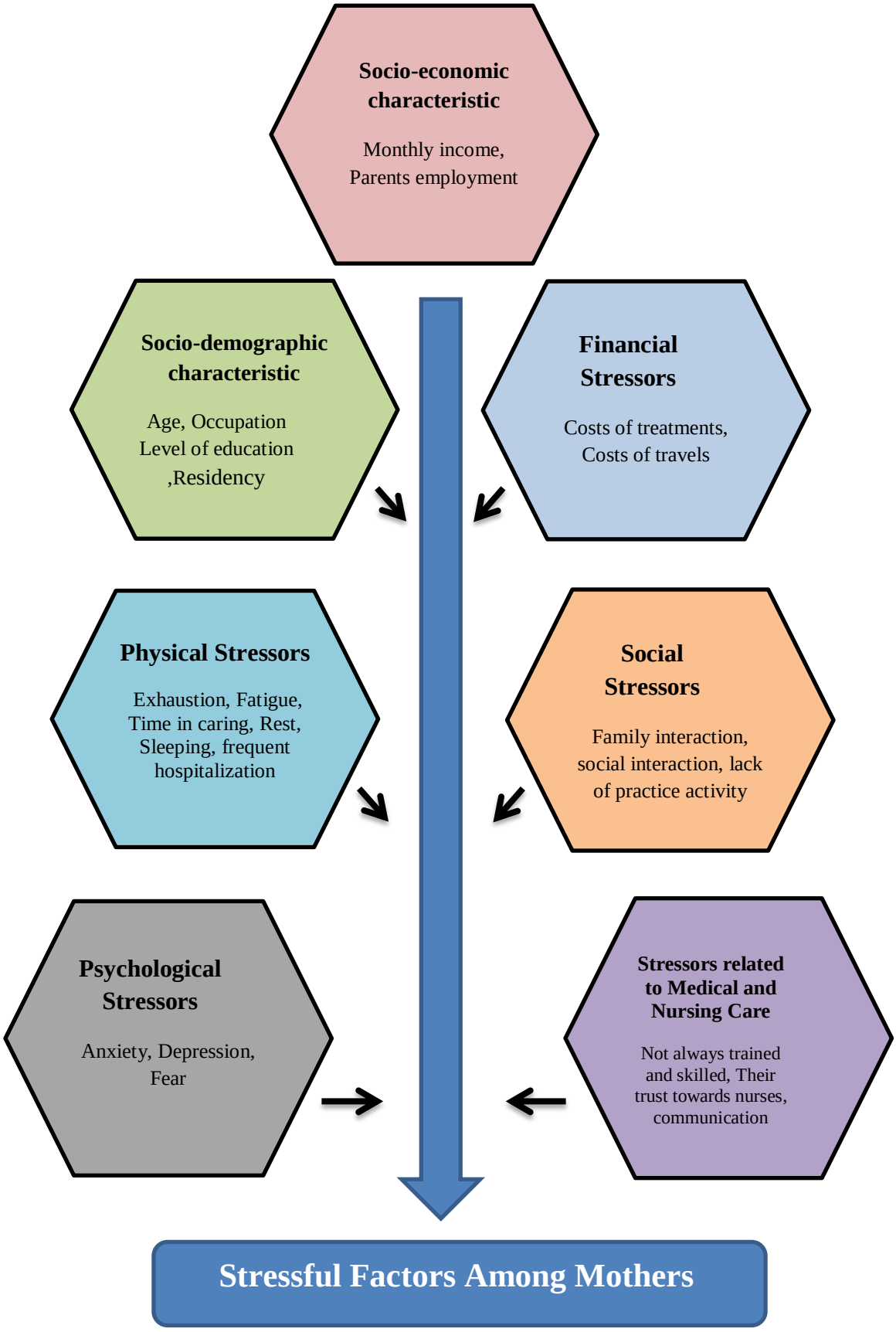


**Figure 2 1:Conceptual framework diagram "self-developed "**

## 2.4 Incidence of childhood cancer

### 2.4.1 Globally

Based on information collected globally on almost 300 000 cancer cases diagnosed in 2001–2010, the study showed that leukemia is the most common cancer in children younger than 15 years, making up almost a third of childhood cancer cases. (Foucher, 2017), and cancer is emerging as a major cause of childhood death in the developing regions of Asia, South and Central America, northwest Africa, and the Middle East. Over the past 30 years improved therapy has dramatically increased survival rates for children with cancer, but still more than 70% of the world's children with cancer lack access to modern treatment (Haileamlak. 2016).

### 2.4.2 In Developed countries

In the US in 2019, an estimated 11,060 new cases of cancer will be diagnosed among children from birth to 14 years (National cancer institution, 2019). Importantly, virtually all children and adolescents with cancer have guaranteed access to optimal treatment as soon as the disease is diagnosed. Moreover, in the United States and many other developed countries, public policies sanction the rights of children with cancer to have access to adequate treatment. Finally, a large majority of children with cancer in the US are managed in modern tertiary pediatric hospitals and participate in multi-institutional research trials. This combination of excellent patient care and research has ensured constant improvement in outcomes of pediatric cancer (National cancer institution, 2018).

### 2.4.3 In Developing countries

According to White (2013) it is estimated that 80%-85% of pediatric cancer cases occur in the developing world. In developing countries, the leading causes of death among children differ substantially from those in developed nations. Infectious diseases, including tuberculosis, malaria, and measles, are usually ranked first, followed by pneumonia, diarrhea, and malnutrition (the diseases of poverty). Pediatric cancer is not listed as cause of death in these countries and often is omitted from the agenda of national and global health priorities.

The main reason for this attitude is that even if effective pediatric cancer programs were available and drastically reduced pediatric cancer-related deaths, the overall rate of childhood mortality in these countries would not be perceptibly improved. Pediatric cancer does not become a noticeable cause of childhood mortality until the under-5 mortality rates

are about or less than 30 per 1,000 children born alive (Ribeiro, 2008). the annual incidence of childhood cancer in Indonesia is approximately 140 per 1 million children younger than age 15 years. As annual rates per 1 million children of 45.6 in Namibia and 64.4 in India, respectively. Some of this variation may relate to differences in environmental exposures or to biologic susceptibility (Sari, et al, 2018).

### 2.4.4 In Arab countries

The countries of the Arab Middle-east share a great deal in terms of culture while markedly differing in their levels of economic development. The variation between and within populations is reflected in different disease profiles, although in all cases the burden of cancer is already appreciable. The available data indicate that incidence rates are rising and with aging as well as continued population growth this means that the problem will loom larger in the future. In most of Arab Countries, there is no enough research about the patterns of childhood cancers, In most of Arab Countries, there is no enough research about the patterns of childhood cancers, In Egypt, like in many Arab countries, the true cancer incidence is unknown since there is no national registry (El Malla, et al, 2017).

According to the Children's Cancer Hospital Egypt, 8500 children in Egypt are estimated to be diagnosed with cancer every year. The reasons for such a high mortality rate has to our knowledge neither been investigated nor reported in the literature due to the lack of correct and cohesive data and the underreporting of cases (El Malla, et al, 2017). In Saudi Arabia, the overall incidence of childhood cancers was increased from 88 per 1,000,000 in 1999 to 98 per 1,000,000 in 2008 in Saudi Arabia (Al-Mutlaq, et al, 2015). In Sudan, with an age-standardized annual incidence generally between 94 and 142 per million children aged 0 to 14 years (Mohamedani, et al, 2018).

### 2.4.5 In Palestine

Available health status measures indicate a cessation of decades of improvements or even a deterioration in the health status of the population in the Occupied Territories over the past five years. They also indicate a population health status significantly poorer than that of the Israelis, but comparable to those of the populations of Egypt, Jordan and Morocco. The Palestinian Ministry of Health (MOH) reported that children with cancer represent 7.8% of all cancer cases registered in Palestine, adding that the rate of cancer in

Palestine reached 83.8 new cases per 100,000 persons (The Palestinian Information Center, 2017).

The total number of children diagnosed with cancer was 476 (6.6%) of the total cancer cases in the GS, 25.4% of children with cancer were diagnosed with Leukemia were 16.3% had brain tumor, 11.6% had lymphoma, 6.3% had bone cancer, 6.1% had neuroblastoma, 5% had nephroblastoma, 2% had rhabdomyosarcoma, 1.4% had retinoblastoma (Abdelaziz & Mona, 2017).

## 2.5 Type of cancer

Childhood Cancer was developed to highlight important differences between adult and child cancers and has organized childhood cancers into 12 distinct diagnostic groups: Leukemia, Lymphomas, Central Nervous System, Neuroblastoma & peripheral nervous system Tumors, Retinoblastoma, Renal Tumors, Hepatic Tumors, Malignant Bone Tumors, Soft Tissue Sarcomas, Germ Cell Tumors, Malignant Epithelial Neoplasms and Unspecified Malignant Neoplasms. Children tend to present with a higher proportion of blood and lymphatic cancer, most commonly leukemia and cancers of the nervous system compared to adults (Maunder, 2012).

According to International Classification of Childhood Cancer (third edition) which are divided into 12 distinct diagnostic : For this reason a separate classification system for childhood cancers has been developed, based on the morphology and topography axes of the International Classification of Diseases for Oncology, which is the main coding system for adult cancers. However, while most cancers in adults are classified according to topography, the internationally recognized childhood cancer classification is based mainly on morphology. The current standard for childhood cancer is the third edition of the International Classification of Childhood Cancers (ICCC-3, 2008), shown in Table 2.1.

**Table 2.1: The 12 major diagnostic groups as well as subgroups of leukemia and lymphoma of the International Classification of Childhood Cancer, third edition**

| | ICCC-3 diagnostic group | Term/Abbreviation used in this report |
|---|---|---|
| I | Leukaemias, myeloproliferative disease and myelodisplastic diseases | Leukaemias |
| I a | Lymphoid leukaemias | ALL |
| I b | Acute myeloid leukaemias | AML |
| I c | Chronic myeloproliferative diseases | |
| I d | Myelodysplastic syndrome and other myeloproliferative diseases | |
| I e | Unspecified and other specified leukaemias | |
| II | Lymphomas and reticuloendothelial neoplasms | Lymphomas |
| II a | Hodgkin lymphomas | HL |
| II b | Non-Hodgkin lymphomas (except Burkitt lymphoma) | NHL |
| II c | Burkitt lymphoma | |
| II d | Miscellaneous lymphoreticular neoplasms | |
| II e | Unspecified lymphomas | |
| III | CNS and miscellaneous intracranial and intraspinal neoplasms | CNS tumours |
| IV | Neuroblastoma and other peripheral nervous cell tumours | Sympathetic nervous system tumours |
| V | Retinoblastoma | Retinoblastomas |
| VI | Renal tumours | Renal tumours |
| VII | Hepatic tumours | Hepatic tumours |
| VIII | Malignant bone tumours | Malignant bone tumours |
| IX | Soft tissue and other extraosseous sarcomas | Soft tissue sarcomas |
| X | Germ cell tumours, trophoblastic tumours, and neoplasm of gonads | Germ cell tumours |
| XI | Other malignant epithelial neoplasm and melanomas | Malignant epithelial neoplasms |
| XII | Other and unspecified malignant neoplasm | Other & unspecified malignant tumours |

### 2.5.1 Leukemia

leukemia's are cancers of the blood causing the bone marrow to produce abnormal white blood cells. leukemia is classified according to the type of white blood cells it affects as either lymphoblastic leukemia or myeloid leukemia and according to how quickly it develops as acute or chronic; ALL is the most common type in children. Symptoms especially of ALL are relatively unspecific and include fatigue, fever and infections, weight loss, pallor, bruises, a fine rash of dark red sports, breathlessness, 9 swelling of the abdomen and swollen lymph glands. Some children may experience pain in the bones as result of increased bone marrow activities. Blood tests, bone morrow aspiration and biopsy

and lumbar puncture are the most important diagnostic tests for leukemia. Treatment and prognosis depend, among other factors, on the type of leukemia (ACS, 2015).

### 2.5.2 Lymphoma

Lymphomas are cancers that originate in the body's lymphatic tissues. Lymphomas are divided into two broad types, depending on the appearance of their malignant cells, Hodgkin and non-Hodgkin lymphomas including the subgroup of Burkett lymphoma. Each of these types also has several subtypes. Children with Hodgkin lymphoma typically have abnormal cells called Reed-Sternberg cells (a cancerous B-lymphocyte) in the cancer-affected lymph nodes. In non-Hodgkin lymphoma , there is a malignant growth of specific types of lymphocytes which is also seen in ALL. In general, people with lymphoma have no or only minimal bone marrow involvement, whereas those with leukemia have extensive bone marrow involvement (ACS, 2015).

According to American Cancer Society (2015) the commonest places for lymphoma to be found are lymph nodes in the neck, liver, or spleen. Most common symptoms of lymphoma include painless swellings in the neck, armpit or groin; and more general symptoms are fever, night sweats, difficulty in breathing and weight loss. Hodgkin lymphomas tend to be relatively slowly growing, whereas the majority of non-Hodgkin lymphomas are highly aggressive and fast growing. The most important diagnostic test is a lymph node biopsy. Type of lymphoma determines treatment and prognosis; Hodgkin lymphoma is one of the most curable forms of childhood cancer (Allen, et al, 2015).

### 2.5.3 Central nervous system (CNS) tumors

Together, the brain and spinal cord make up the central nervous system. There are many types of CNS tumors in children with most of them occurring in the brain. CNS tumors are classified by the affected cell type and in children astrocytomas (originating from astrocytes), medulloblastomas (originating from cells left from the earliest development of the body in the womb) and ependymomas (ependymal cells) are the most common ones. CNS tumors 10 are formed by the abnormal growth of cells and may be begin or malignant. Both benign and malignant brain tumors can cause severe symptoms and need treatment. Presenting features are mainly dependent on the location within the brain or spinal cord, the size of the tumor and how fast the tumor grows. Tumors in any part of the brain may raise the pressure inside the skull, causing headache, nausea, vomiting, seizures, strabismus and loss of vision, coordination and balance, diagnostic imaging such as

magnetic resonance imaging and computer tomography are used for diagnosis, treatment is based among others on the type of tumor, position, tumor size and age of the child (Chintagumpala & Gajjar 2015).

### 2.5.4 Sympathetic nervous system tumors/ Neuroblastoma

Neuroblastoma develops from nerve cells called neuroblasts and most commonly originates from the tissue of the adrenal glands, the triangular glands on top of the kidneys. Neuroblastoma has a diverse pattern of clinical presentation and prognosis that ranges from spontaneous regression to metastatic tumors. It is the most common cancer diagnosed in infancy (Irwin & Park, 2015). In a few cases, the tendency to get this type of cancer can be passed down from a parent to a child (familial type), but most cases of neuroblastoma (98%) are not inherited (sporadic type). The first symptoms are often vague and may include irritability, fatigue, loss of appetite, and fever symptoms depend on primary tumor locations and metastases if present. Treatment of neuroblastoma depends on the stage of the cancer, the age and other prognostic markers (Irwin & Park, 2015).

### 2.5.5 Retinoblastoma

Retinoblastoma is the most common neoplasm of the eye in children and grows in the retina, a layer of nerve tissue in the back of the eye. Retinoblastoma affect very young children, two clinical forms of retinoblastoma are identified: 75% of all cases present with unilateral retinoblastoma (only one eye affected) and 25% with the bilateral form. Children with bilateral retinoblastoma carry a specific germ line mutation. The mutation is in 25% of all cases inherited from an affected parent and in 75% of all cases results from a de novo mutation in utero, visible symptoms include odd-looking pupil (looking white and reflecting light) and swelling of the eye. Treatment is risk-adapted by intraocular and extra ocular stage, laterality and potential for vision (Rodriguez-Galindo, et al, 2015).

### 2.5.6 Renal tumors

The most common form of kidney tumors in children is Wilms tumor. Most Wilms tumors are unilateral, but about 5% of children with Wilms tumors have bilateral disease, the most common signs are a lump often larger than the kidney itself in the child's abdomen and abdominal pain, blood in urine and, more general, hypertension, nausea, constipation and fever, common tests to diagnose kidney tumors include blood and urine tests as well as diagnostic imaging. The primary treatment of all renal tumors in children is surgical removal (ACS, 2015).

### 2.5.7 Hepatic tumors

There are two main types of malignant hepatic tumors in children: Hepatoblastoma usually occurs in children under the age of three years, and hepatocellular carcinoma in older children. The most common sign is a lump or swelling in the abdomen, which can be painful. Other possible symptoms include weight loss, a loss of appetite, nausea and vomiting, diagnostic procedures include diagnostic imaging, blood tests and biopsy. Treatment of malignant liver tumors depends on staging (ACS, 2015).

### 2.5.8 Malignant bone tumors

Malignant bone tumors occur most often in teenagers. The two most common types of bone cancer in children are osteosarcoma and Ewing sarcoma. About 80% of childhood osteosarcomas develop at the ends of the long bones that form the knee. However, osteosarcoma can develop in any bone of the body. Ewing sarcomas are more likely occur in pelvis, ribs or spine. The most common symptoms are localized bone pain. This can be accompanied by tenderness, swelling and fever. The grading largely determines prognosis and treatment strategy (ACS, 2015).

### 2.5.9 Soft tissue sarcomas

Soft tissue sarcomas are a diverse group of cancers that develop in soft tissue around muscles, fat, blood vessels, lymphatic vessels, nerves, ligaments and tendons, which connects, supports, or surrounds bones and organs. Rhabdomyosarcoma is the most common type of soft tissue sarcoma in children which usually affects infants and young children. It tends to occur in the head and neck area, bladder, vagina, and, in or around the 12 prostate and testes. In comparison to other cancers, sarcomas tend to occur in extremities of the body, symptoms are specific to the affected area. Some children may present with lump on specific sites, nasal, vaginal or rectal bleeding, headache, sinusitis, persistent ear, nasal discharge or bulging eyes. The primary treatment is surgical removal (ACS, 2015).

### 2.5.10 Germ cell tumors

Germ cell tumors are made of varied group of cancers that originate from cells that normally develop into gonads (testes in boys, and ovaries in girls) usually then affecting the gonads, but they can also occur in other parts of the body such as pelvis, brain and chest, treatment usually includes either surgery or chemotherapy, or often a combination of the two (ACS, 2015)

### 2.5.11 Epithelial tumors and melanoma

Epithelial cells form outer layer of skin and line internal cavities in the body. Most glands are usually composed of epithelial cells. Melanoma, although very rare, is the most common skin cancer in children, followed by basal cell carcinomas and squamous cell carcinomas. Melanoma typically occurs as skin cancer. It originates from the cells which produce pigment defining color of skin hair and eye (melanocytes). The cancer does not present symptoms (ACS, 2015). Exposure to ultraviolet radiation and a light skin type have been shown to be the main causes of skin cancer (Kesminiene & Schüz, 2014).

Diagnosis usually follows discovery of suspicious lesion which changes size, color, itching or bleeding, treatment depends on the stage of melanoma and includes typically surgery to remove the lesion which might be sufficient for children with localized melanoma or non-melanoma skin cancer (ACS, 2015).

## 2.6 Risk factors of childhood cancer

Spector, et al. (2014) conducted a study to identify the main risk factors for pediatric cancer. cancer arises from the transformation of normal cells into tumor cells in a multistage process that usually progresses from a pre-cancerous lesion to a malignant tumor. These changes are the consequence of the interaction between a person's genetic factors and three categories of external agents, including:

Physical carcinogens: such as ultraviolet and ionizing radiation.

Biological carcinogens: such as infections from certain viruses, bacteria, or parasites.

Chemical carcinogens: such as aflatoxin (a food contaminant), and arsenic (a drinking water contaminant).

In GS, risk factors associated with pediatric cancer were as follows; child education level, child father age, medication giving during gestational period, exposure to Ultrasound during gestational period, family cancer history and degree to relevant to child, daily beverage intake and additives in drinking, in addition to association between family history of smoking and maternal exposure to passive smoking or aerosol while pregnant. (Elnuweiry, 2015).

## 2.7 Mortality and Survival of childhood cancer

The survival improvements are reflected in the decline in childhood cancer mortality rates. The global under-five mortality rate declined by 56% from 93 deaths per 1000 live births in 1990 to 39 in 2017. All WHO regions have halved their under-five mortality rates in the same time period. The burden of under-five deaths remains unevenly distributed. About 73% of under-five deaths occurred in two regions in 2017,Africa (49%) and South-East Asia (24%). The highest under-five mortality rate remains in the African Region (74 per 1000 live births), around 8 times higher than that in the European Region (9 per 1000 live births) (WHO,2017b).

According to data from the US the childhood cancer mortality rate (in children under 20 years of age) has decreased by more than 50% between 1975 and 2006. The decrease was mainly due to the declining mortality for leukemia (64% reduction), gonadal cancer (85%), Non-Hodgkin lymphoma and Hodgkin lymphoma (75%), and neuroblastoma and bone cancer (35-40%). The leading causes of cancer death in children are leukemia's and CNS tumors (Erdmann, 2015). Similar decreases in mortality were also noticed in Europe (Erdmann, 2015). The rate of decrease in mortality, however, has slowed down since the early 2000s (Foucher & Frazier, 2014): with an estimated mortality rate of 29 per million children in Europe in 2012 (Ferlay, et al, 2013).

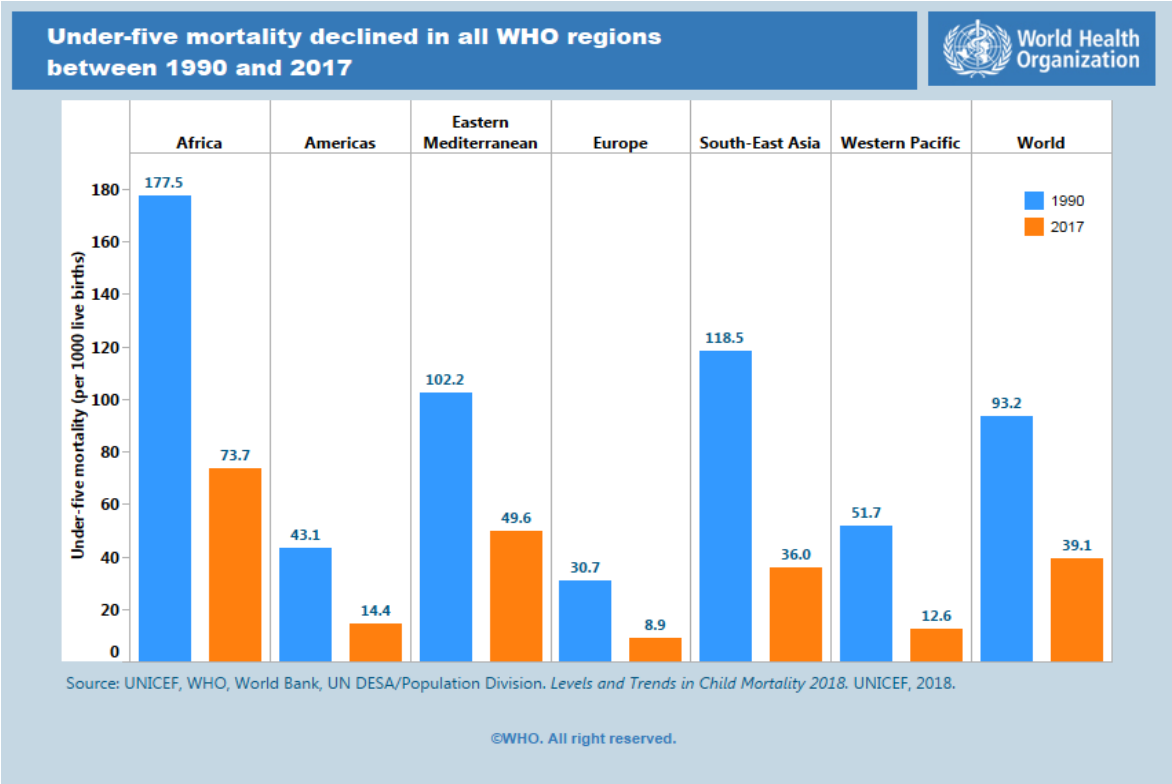


**Figure 2.1: The global under-five mortality rate declined in all WHO regions between 1990-2017**

The substantial improvement in survival is mainly limited to high-income countries. Information on childhood cancers in middle-income countries is scarce and indicates that, despite of the different reporting periods, the proportion of 5-year survivors is much lower in India, China and Thailand than those observed in high-income countries (Erdmann, 2015).

## 2.8 Treatment of cancer

Childhood cancer histologically embodies very diverse types of cancers, which are treated differently and with dissimilar survival, over the past decades, advances in tumor biology, risk grouping, and pharmacology have led to substantial improvements in treatment of childhood cancers which, alongside with advances in diagnostic procedures, have resulted in substantial survival improvements and declining mortality rates (Gatta, et al, 2014).

According to NIC (2017) Cancer treatment requires careful consideration of evidence-based options, which can include more than one of the major therapeutic modalities:

Surgery: performs surgery to obtain a diagnosis or get rid of the tumor mass. This therapy can be used alone, or in combination with other treatment methods. To this day, surgery

remains a promising cancer therapy modality as new technologies have supported more precision in surgical care (NIC, 2017).

Radiotherapy: is an important mode of therapy and treatment, where approximately 50% of cancer patients receive radiation therapy in their cancer care continuum and contributes to 40% of all therapeutic treatments for cancer. The main goal of radiation therapy is to kill cancer cells through targeted radiation beams. It aims to reduce the number of healthy cells that are lost during treatment, when compared to systemic therapies, by only targeting the areas of the body affected by cancer. High-energy radiation damages the genetic material of cells, which causes cell death. Unfortunately, the radiation still affects the healthy cells surrounding cancer cells, but the healthy cells have the ability to heal themselves at a faster rate following treatment and retain normal functioning (NIC, 2017).

Systemic therapy: Chemotherapy is a large group of drugs. There are over 30 different chemotherapy drugs that we call cytotoxic, because they kill cells. Other types of drugs such as hormonal therapy, biological or targeted therapy are also used to kill cancer cells as well. Chemotherapy travels throughout the body by the bloodstream. It can affect both cancer and normal cells. Some cancers need only one kind of chemotherapy drug to treat them. Others might need a combination. One or more chemotherapy drugs may be used to treat a cancer (NIC, 2017).

The selection should be based on evidence of the best existing treatment given the resources available. Shared decision-making that takes into account patient factors including individual preferences is best. When possible, options to be presented to patients should be coordinated between providers in a multi-disciplinary manner to ensure timely and effective treatment. Combined modality therapy requires close collaboration among the entire cancer care team and should be delivered in an integrated, people-centered manner (WHO,2017a).

The WHO list of essential medicines was updated in 2015 to include 30 cytotoxic and adjuvant medicines (anti-cancer medicines) that are part of proven clinically effective treatment regimens. This list has been vetted for efficacy, safety and quality, and comparative cost-effectiveness evaluations with other alternatives in the same class of medicines were performed to generate these important treatment tools. Cancer treatment services require a strong health system to ensure treatment is high-quality, effective, safe and accessible to all cancer patients (WHO,2017a).

## 2.9 Palliative care

Palliative care in children is a response to their physical, mental, social, and spiritual needs with the aim of improving the quality of life for the children and their families. It starts with the diagnosis, and can be applied regardless of whether or not the patients received the treatment (Mojen, et al. 2017).

According to an estimate by Global Atlas of Palliative Care at the End of Life, 1/2 million children in the world need end of life care, 98% of which are in developing and less developed countries (Mojen, et al. 2017). Furthermore, due to the high rate of cancer in children, provision of these services are considered to be a necessity in the Middle East (Silbermann, 2015).

In Palestine, Kharroubi & Abu Seir (2016) The results which showed that children with cancer often receive treatment for cancer and treatment to ease the symptoms at the same time. Palliative care is best given in the cancer treatment process and continues through all stages of illness, regardless of whether complete remission of cancer is possible or not. Health care providers must evaluate and alleviate a patient's physical, psychological, and social distress. While palliative care was first introduced to Arabs in the Middle Eastern countries in the early 1990s, its development process has been slow. The typology that defines different stages of palliative care and hospice development are divided into four categories: "no services identified," "capacity building," "localized provision," and "approaching integration," the West Bank and Gaza are on the border between "no services" and some limited "capacity building." Palliative care is not yet integrated into the Palestinian health care system, just like most of Middle Eastern countries, and it is not considered one of the basic concerns of the governmental policies that must be provided to cancer patients and is not covered by health insurance inside Palestinian governmental hospitals.

## 2.10 Stressful factors facing the mothers

mothers of children with cancer encounter multiple sources of stress, including the emotional challenges of caring for their child, disruptions in daily routines, financial challenges due to income loss and medical expenses, and challenges communicating with medical professionals and their child about complex aspects of the disease and treatment (Rodriguez et al., 2012)

Employment stress is high for mothers, found that full time or stable, long term employment improves mental health; however, close to 40% of hold part-time jobs with low hourly wages, no benefits, and no job flexibility. Given the current economic crisis, it is likely that even more mothers are working part time or have lost their jobs. Related to job and income worries, mothers worry about caring alone, finding child care, and missing work for illness, or child-related reasons. Furthermore, job demands and parenting prevent most mothers from investing in their own education. Finally, since they are unlikely to have health care benefits, mothers often ignore their own physical health in favor of getting health care for their children (Broussard,et al. 2012).

This burden of care, while both parents may report significant worry and concerns of maintaining family functioning, one parent, typically the mother, is commonly identified as the primary caregiver (Bemis, et al.2015).

According to Rodriguez, et al (2015): Mothers of children with cancer are typically the child's primary caregivers throughout treatment and are faced with the dual tasks of providing emotional support to their child and facilitating their child's understanding of information about the disease. Mothers' communication about cancer may be crucial to children's adjustment following diagnosis, as maternal communication style is a key predictor of child psychosocial adjustment and health. However, communication may be challenging for some mothers due to use of ineffective strategies to cope with their child's illness. Coping may directly impact mothers' parenting and interpersonal skills and interfere with the ability to provide support and clear explanations. Ineffective coping may also lead to elevated distress, which may disrupt mothers' interactions with their children. Therefore, mothers' ability to cope with their child's cancer and manage their own distress may be important for communicating effectively with their child.

The responsibility of making and keeping health care appointments, monitoring illness status, administering medications and treatments, in addition to caring for household tasks such as feeding the family and cleaning the home. which has been shown to remain relatively stable across the duration of the illness has led many mothers to believe they could not have a break from the routine and responsibility of caring for the child, often leading to physical exhaustion. Furthermore, carrying the burden of care may allow for fewer opportunities for community and outside activities, leading to feelings of social isolation and potentially diminished social support. Notably, recent work also has

suggested that the burden of care and level of stress that accompanies having a child with a chronic health condition may have significant negative effects at the physiologic level, including premature cell aging, which may culminate in a variety of health problems in the caregiver (Bemis, et al. 2015).

Theorize that coping manifests as interpersonal behaviors, such as cooperation, withdrawal, and aggression/hostility, during interpersonal interactions . In the context of family interactions, mothers' effective interpersonal coping would allow them to draw on more effective parenting skills and lead to a more positive mother–child relationship. Within a model of interpersonal coping may manifest as more prosaically maternal interpersonal behaviors, including responsiveness, warmth, and child-centeredness. Primary control coping involves problem solving and the expression and regulation of emotions, which may allow mothers to organize information and provide it to their children in a child-centered manner. involving positive thinking and cognitive restructuring, would allow mothers to maintain a positive, warm, and supportive emotional climate while discussing potentially distressing topics (Rodriguez, et al. 2015).

Coping mechanism may help mothers communicate more effectively with their children, maternal distress following diagnosis may disrupt mother–child communication and lead to negative outcomes for children. Several theoretical models have proposed an association between higher levels of maternal distress symptoms and more negative mother–child communication and child adjustment. Empirical research also indicates that maternal distress symptoms have a detrimental impact on mother–child communication in families of healthy and chronically ill children, leading to both over reactive/harsh and lax/withdrawn styles of interaction with the child (Errázuriz, et al. 2012).

### 2.10.1 Psychological stressors

Parents have been found to be psychologically affected by their child's diagnosis, treatment, side-effects of the treatment and child's health status (Masa'Deh, et al, 2013). It contained ten items such as stressors related to frequent medical procedures and follow-up, side effects of treatment, frequent absence from school inability of child to practice activities like children in the same age, sadness of child and thinking of his future, siblings sadness and fear from affected with same disease (Gaafer, et al, 2013). The parents of cancer diagnosed child are mostly under a major stress because the appearance of cancer can cause an emotional crisis (anxiety and/or depression) linked with the fear of death and

loss of the previous reality especially the mother who usually take care of the child (Khalil, et al. 2017).

Anxiety: This condition of persistent and uncontrollable nervousness, stress, and worry that is triggered on the mother, memories of past events, or ruminations over day-to-day events, both trivial and major, with disproportionate fears of catastrophic consequences (Barrera, et al. 2011).

Depression: Another indicator often present in the lives of mother who deal with their child's. According to the DSM-5 (APA, 2013), the criteria for major depressive disorder include, but are not limited to, having depressed mood most of the day, experiencing diminished interest or pleasure in almost all activities, significant weight changes, insomnia or hypersomnia, fatigue or loss of energy, inability concentrating, thought of death or suicidality, and impairment in social and occupational functioning (Barrera, et al. 2011).

Fear : This component mean unpleasant emotion or thought that you have when you are frightened or worried by something dangerous, painful, or bad that is happening or might happen Such as the mother's thinking about the fate of her son (Barrera, et al. 2011).

### 2.10.2 physical stressors

Physical stressors such as tiredness, back pain, sleep disturbances, fatigue and cardiac disease were highlighted (Hardning, et al, 2012). It included five points about stressors related to exhaustion and fatigue from frequent follow-up and bringing child to hospital, spending of most times in caring of the child and having times for rest and sleeping, in addition to help the child in daily care (Gaafer, et al, 2013). Parental participation in caring is not only considered as a way but also a structured process allowing parents being committed to cooperating with the nurses in child care and it leads to clarifying the needs of children (Salmani, et al, 2014).

Exhaustion and Fatigue: This component discovers the energy, enthusiasm, and strength that a person has in order to perform the necessary tasks of daily living, in addition to other chosen activities such as recreation. This may range from reports of disabling exhaustion to adequate levels of energy, to feeling really alive (Gaafer, et al, 2013).

Rest and Sleeping: This facet concerns how much sleep and rest, and problems in this area, affect the person's. Sleep problems might include difficulty going to sleep, waking up

during the night, waking up early in the morning and being unable to go back to sleep and lack of refreshment from sleep (Gaafer, et al, 2013).

Frequent hospitalization and Time in caring: This domain explores unpleasant physical sensations experienced by a person and the extent to which these sensations are distressing and interfere with life. In fact, changes in levels of pain may be more distressing than the pain itself. Even when a person is not actually in pain, either through taking drugs or because the pain is by its very nature on and off, her may be affected by the persistent threat of pain. It is acknowledged that people respond to pain differently, and differing tolerance and acceptance of pain is likely to affect its impact (Gaafer, et al, 2013).

### 2.10.3 Financial stressors

It contained two items about costs of follow up and treatments and costs of travels and further the house from the hospital (Gaafer, et al, 2013). These parents, other than bearing financial pressures (Feizi, et al, 2014). Parents have reported additional burdens expenses; for example, issues in their employment and financial status (Gravestock, et al, 2011). Financial challenges due to decrease income loss and medical expenses (Compas, et al, 2015).

Financial costs for treating: childhood cancer care are traditionally assessed based on the amount spent for diagnostic tests, hospitalization, and chemotherapy(Compas, et al, 2015).

The financial costs for travel: accommodation, out-of-pocket expenses for food, phone bills, and loss of income due to reduction or termination of parental employment are hidden nonmedical expenses that are rarely accounted for (Gravestock, et al, 2011).

Out-of-pocket expenses by definition are not covered by insurance or government funding. Understanding the measures by which family absorbs the changes in expenditure and income is important for the psychosocial care of the families. In resource-limited countries, it's not unnatural that these families attempt to absorb these costs by increasing their debts, obtaining loans, using credits, borrowing money from friends and relatives, selling their assets, utilizing the long-term savings, and compromising the quality of life of other family members and siblings (Sneha, et al. 2017).

### 2.10.4 Social stressors

It consisted of nine items such as stressors related to effect of illness of the child on social exchange visiting, family and social interaction, lack of practice activity because of illness

of her child, mother is the only family member dealing with child, little interaction of the child with peer and siblings and inability of the child to form friend (Gaafer, et al, 2013). Burden in their family relationships, and issues in caring for other children (Masa'Deh, et al, 2013). From researcher observation of child with cancer missing many school classes and this will affect his school achievement.

Family interaction and lack of practice activity: This facet consists of the ability and opportunity to love, to be loved and to be close with others both emotionally and physically. The extent to which people feel they can share moments of both happiness and distress with loved ones. (Masa'Deh, et al, 2013).

social interaction: This includes how supported the person feels and whether she is receiving adequate reassurance and encouragement from family and friends (Gaafer, et al, 2013).

### 2.10.5 Stressors related to medical and nursing care

Some parents show high levels of stress and cannot feel sufficiently secure to trust the care provided by nursing and healthcare staff (Alves, et al, 2013). The health care system or the health care provider are not always trained and skilled at discussing emotional problems with the primary caregiver who is almost have been the mother. The impact on the family cannot be ignored because the diagnosis of cancer in a child also causes psychological effects on the whole family especially mother (Feizi, et al, 2014).

Challenges communicating with medical professionals and their child about complex aspects of the disease and treatment (Rodriguez, et al, 2012). But when nursing care is not matched with their expectations in the health care field, their trust towards nurses will be undermined. On the other hand, parents with hospitalized children feel danger that can be derived from the nurses, their intentions and their future actions in nursing a child whose parents are dependent on him/her (Salmani, et al, 2014).

### 2.10.6 Stressors related to knowledge about the disease and its treatment

A mother's knowledge of the signs and symptoms of cancer is very important for early diagnosis, effective treatment, and in terms of life expectancy. As cancer and its effects spread and produce an impact over the whole of society (Demirbağ, et al. 2013). Knowledge regarding pediatric cancer is almost nonexistent among the general population (Nair, et al. 2017).

The mother with childhood cancer needs more knowledge and skill to manage the child with side effects of treatment. There is a need for developing planned teaching program and test the effectiveness in helping the mother to develop confidence, increase knowledge and modify attitude which will help in effective management of child receiving treatment (Obaid, et al, 2014).

Mothers of children have deficient knowledge regarding causes and symptoms of the disease, have deficit knowledge regarding the importance of nutrients, also have deficit knowledge about the psycho-social aspects during supporting, and managing the cancer patients respectively. Knowledge of the specific diagnosis and details of treatment can help caregivers to provide good caring, and implement appropriate interventions. Parents differ in how much information they need or feel they can handle about the disease. However, parents raise such topics, and parents report that only 15% to 20% of physicians assess the family's psychosocial issues (Hasan, et al, 2014).

# Chapter Three

## Methodology

This chapter presents the study methodology which includes, study design, study population, study setting, a period of the study, sample size, sampling method, eligibility criteria, and data collection as well as validity and reliability of the study instrument. In addition to the method of data collection, analysis, limitations of the study and ethical matters.

## 3.1 Study Design

The study design is a descriptive cross-sectional. This design is suitable for the nature of the variables included in the study. Their design saved time and inexpensive in terms of money and it is relatively practical and manageable. It was chosen because it enables the researcher to meet the study objectives in a short time.

## 3.2 Study Population

In this study, the target population was all mothers having children with cancer from both sexes with different age groups and attending to the oncology department at inpatient and outpatient. who have medical records registered in the hospital of the Ministry of Health.

## 3.3 Study Setting

This study has been conducted at El Ranteesy Pediatric Specialized Hospital is the specialized pediatric in Gaza Strip, the service provided by the hospital for oncology department.

## 3.4 Study Period

The study was implemented immediately after the approval of the proposal. A pilot study was conducted in April 2018. Data collection started in June 2018 and continued to mid-August 2018. Data entry, analysis and writing the final report continue to December 2018.

## 3.5 Sampling process and sample size

A convenient sample was taken, the researcher considered the population as the sample of study because the population size is relatively small. However, the target population of a study was 170 mothers, there were patients traveling outside Gaza, therefore; the accessible population 110 mothers.

## 3.6 Eligibility criteria

The population of this study has been mothers known to have a child diagnosed with any type of cancer in Gaza.

Mothers who met the following criteria were eligible to participate in the study:

1. Mothers with a child diagnosed with any type of cancer and attending for her treatment in a pediatric oncology ward.
2. Mothers with a child diagnosed with any type of cancer and attending follow-up pediatric oncology clinics.

## 3.7 Study tools

A structured interviewed questionnaire was constructed by the researcher himself after reviewing the related previous studies. The questionnaire had of two main parts: Demographic data and The second part explores mothers about stressors using Likert model scale with five options (strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5). Total questions of the questionnaire was (59) questions divided into six domains as the following:

- Physical Stressors (13 questions)
- Psychological Stressors (10 questions)
- Social Stressors (9 questions)
- Stressors related to Medical and Nursing Care (10 questions)
- Financial Stressors (8 questions)
- Stressors related to knowledge about the disease and its treatment (9 questions).

## 3.8 Ethical consideration

The ethical, administrative considerations and procedures are very important conditions in applying the research. All of the ethical procedures have to be followed perfectly without ignoring any of them.

An academic approval has been obtained from the Al-Quds University to conduct the study. An official letter of approval was obtained from Helsinki Committee in Gaza. An official letter was obtained from MOH to conduct this study. Each participant was provided with an explanatory form about the study including the purpose of the study, confidentiality of information and some instructions.

## 3.9 Scientific rigor

### Face and content Validity

The questionnaire has been evaluated by experts to assess all the components and the context of the instrument, in order to ensure that it is highly valid and relevance and their comments taken in consideration, the questionnaire formatted in order to ensure face and content validity, this including appealing layout, and logical sequences of questions and clarity of instructions.

## 3.10 Reliability of the instrument

Reliability of an instrument is the degree of consistency with which is measures the attribute it's supposed to measuring. The reliability test was done after the pilot stage and also after the data were completely collected and entered. Data collection by the researcher himself and were available during filling the questionnaire to give any clarification and to answer any question asked from the participants. This will ensure standardization of questionnaire filling. The total reliability of the scale was (0.846), table 3.1 below shows the reliability test result for all domains.

**Table 3.1:Reliability estimates for domains and the entire scale**

| No. | Domain | No. of Items | Cronbach's Alpha |
|---|---|---|---|
| 1 | Physical Stressors | 13 | 0.836 |
| 2 | Psychological Stressors | 10 | 0.788 |
| 3 | Social Stressors | 9 | 0.822 |
| 4 | Stressors related to Medical and Nursing Care | 10 | 0.829 |
| 5 | Financial Stressors | 8 | 0.797 |
| 6 | Stressors related to knowledge about the disease and its treatment | 9 | 0.813 |
| | **Total** | **59** | **0.846** |

## 3.11 Pilot study

A pilot study conducted 17 participants from the study sample before starting the data collection. This was done to test the clarity, point out weaknesses in wording, predict response rate, determine the real time needed to fill the questionnaire and identify areas of vagueness and to test the reliability of the questionnaire. All participants recruited to the pilot study met the criteria of the sample selection. The pilot study lasted for two weeks and it revealed that the time needed to complete the questionnaire was 20-25 minutes.

## 3.12 Data collection

Data were collected by the researcher through face to face an interviewed questionnaire with mothers having child cancer who participated in the study. Questionnaires collected by the researcher was collected questionnaires in oncology department and out clinic in El Ranteesy Pediatric Specialized Hospital. A consent form was added in front of each questionnaire and ask the participated mothers to freely participate in the study and fill the questionnaire form which distributed with response rate 65%. The average time for filling the questionnaire was 20-25minutes.

## 3.13 Data Management and Data Analysis

The collected data were entered into the computer software "Statistical Package for Social Sciences" SPSS program by the researcher after coding of the questions and then cleaning of the entered data. Data were analyzed using the SPSS program version (22). The research checked all data to avoid any discrepancies, data were examined for coding and entry error. Numerical data were expressed as mean, medians and standard deviations.

The stages of data analysis was included: coding the questionnaire, data entry, data cleaning, constructing frequency tables for all the study variables, testing reliability for each categorized questions, and forming cross tabulation. The researcher used the standard approaches to statistical analysis of questionnaire data including frequencies and descriptive summaries for the categorical data, means, ranges, and standard deviations. Data cleaning performed by reviewing frequency tables, random selection of questionnaire to ensure that accurate data entry was performed.

## 3.14 Limitations of the study

1. Lack of previous studies, especially stressful factors in mothers of children with cancer in Palestine.
2. Use of administered questionnaires from only mothers of children.
3. The response rate of the participants as the study may handle some sensitive issues.

# Chapter Four

## Result & Discussion of the Study

This chapter illustrates the results of statistical analysis of the data, including descriptive analysis that presents the socio - demographic characteristics of the study sample and answers to the study questions. The researcher used simple statistics including frequencies, means and percentages, as well as independent sample t test, and One-way ANOVA.

## 4.1 Socio-Demographic characteristics of Mother

### 4.1.1 Sample distribution according to the participants' age groups, marital status and education

**Table 4.1: Sample distribution according to the participants' age groups, marital status and education N = (110).**

| **Variables** | | **Number** | **Percentage (%)** |
|---|---|---|---|
| **Age groups (years)** | 25 and less | 19 | 17.3 |
| | 26-35 | 44 | 40 |
| | 36-40 | 33 | 30 |
| | >40 | 14 | 12.7 |
| **Marital status** | Married | 108 | 98.2 |
| | Divorced | 2 | 1.8 |
| **Education** | Tawgehi and less | 76 | 69.1 |
| | Diploma | 7 | 6.4 |
| | Bachelor and more | 27 | 24.5 |
| **Total** | | 110 | 100.0 |

Table 4.1 showed that the distribution of study participants according to age groups, marital status and education. The table showed that 19 (17.3%) of the study participants are ≤ 25 years, 44 (40%) are between 26 and 35 years old, 33 (30%) are between 36 and 40 years old, while 14 (12.7%) are more than 40 years old. This finding consistent with a

study conducted by Hasan et al, (2014) who showed that (31%) of caregiver's age were between (39-48) years old.. Also another study conducted by Gaafer et al, (2013) to assess stressors and coping strategies of mothers having children with cancer, who showed that more than half of studied mothers (56.3%) their age was less than 30 years

Also, the table showed that (98.2%) of study participants are married and (1.8%) of them are divorced. This result reflects the conservative nature of the society that encourages marriage and establishment of families. Khalil et al, (2017) to assess assessment of post-traumatic stress disorders among Saudi mothers having a child newly diagnosed with cancer who show that the majority (87.3 %) of them were married.

Moreover, the table showed that (69.1%) of the participants have tawgehi and less education, (6.4%) have Diploma degree, (24.5%) have Bachelor degree and more . This finding consistent with a study conducted by Gaafer et al, (2013) to assess stressors and coping strategies of mothers having children with cancer, who showed that most of them had secondary education (81.5%). Also study conducted by Demirbağ et al, (2013) to assess knowledge of Turkish mothers with children in the 0-13 age group about cancer symptoms, who showed that 46.5% were primary school graduates.

### 4.1.2 Sample distribution according to the participants' Residence

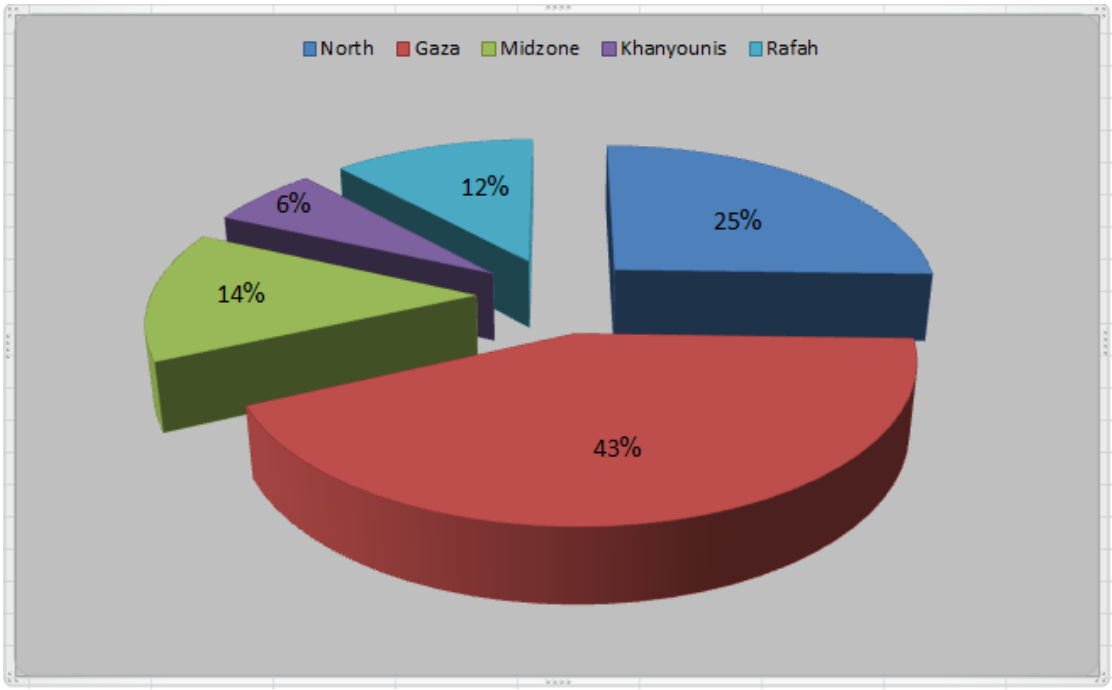


**Figure 4.1: Sample distribution according to the participants' Residence**

Figure 4.1 showed that (43%) of the study participants are from Gaza governorate, (14%) are from middle area, (6%) are from Khanyounis, (25%) are from North area, and (12%) are from Rafah. This result consisted by Elnuweiry, (2015) that Gaza Governorate had the highest number of participant (40.4%) and the lowest number of cases was in Rafah Governorate (5.5%).

The researcher explains that children cancer in Gaza City represent the highest number compared to other cities in view of the higher population density. As the incidence of children cancer in Gaza Governorate was higher, this might have caused most of children at RSPH.

### 4.1.3 Sample distribution according to the participants' fathers work, , mothers work, and house

**Table 4.2: Sample distribution according to the participants' fathers work, mothers work, and house N = (110).**

| Variables | | Number | Percentage (%) |
|---|---|---|---|
| **Mother work** | Working | 8 | 7.3 |
| | Not | 102 | 92.7 |
| **Fathers work** | Working | 59 | 53.6 |
| | Not | 51 | 46.4 |
| **House** | Owned | 89 | 80.9 |
| | Rented | 21 | 19.1 |
| **Total** | | 110 | 100.0 |

Table 4.2 showed that (7.3%) of the participants" mothers are working and (92.7%) are not working. This finding consistent with a study conducted by Abdelaziz, & Mona, (2017) to assess the relationship between Post-traumatic stress disorder (PTSD), anxiety and depression in Palestinian children with cancer and mental health of mothers, 92% of study participants are house wife and 8% of study participants are employee. Also study conducted by Feizi, et al (2014) 19.3% of study participants are employed and 80.7% of study participants are unemployed. The researcher describes that the most mothers in the Gaza Strip are seeking to take care of their children, mothers attention to home-based education, and increase unemployment and work shortages.

It also showed that (46.4%) of the participants‟ fathers are not working and only (53.6%) of them are working. This finding consistent with a study conducted by Abdelaziz, & Mona,(2017) that Simple worker had the highest number of participant (32%) and the lowest number of cases was Merchant (6%). Regarding the house at the participants (80.9%) have owned, while (19.1%) have rented.

### 4.1.4 Sample distribution according to the participants' families income

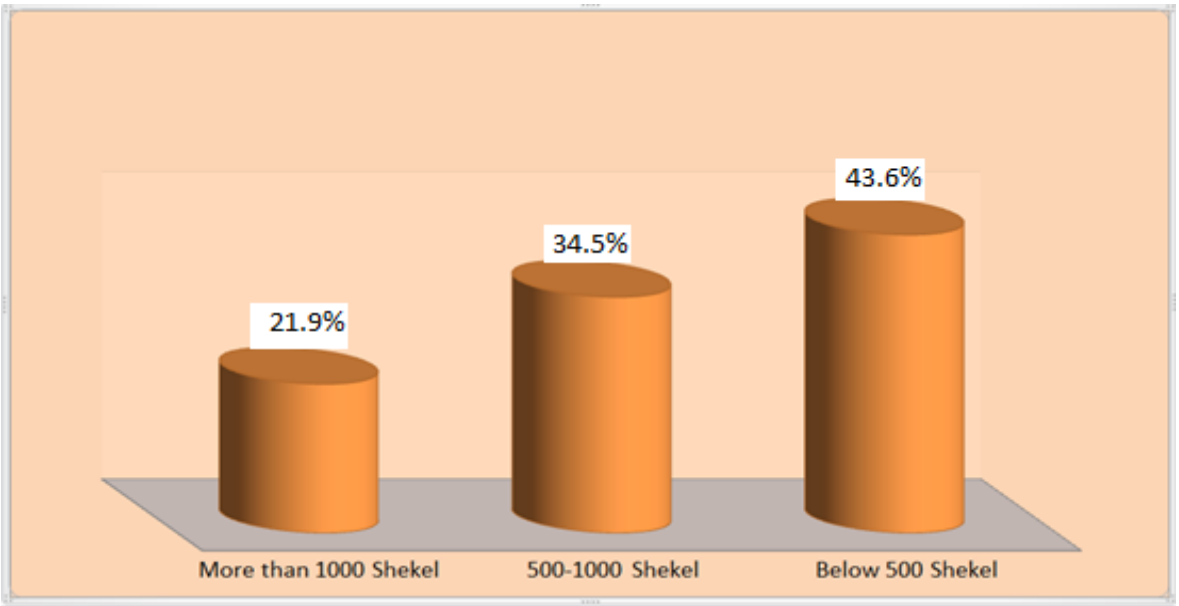


**Figure 4.2: Sample distribution according to the participants' families income**

Figure 4.2 showed that (43.6%) of the study participants‟ families have income below 500 Shekel, (34.5.3%) have income between 500 and 1000 Shekel, while (21.8%) have income more than 1000 Shekel. This finding consistent with a study conducted by Hasan et al, (2014) consistent with our finding study, who showed that (72.5%) of caregivers living with low Socio-Economic Status, (25%) of caregivers living with Middle Socio-Economic Status, (2.5%) of caregivers living with High Socio-Economic Status. Also study conducted by Gaafer et al, (2013) to assess stressors and coping strategies of mothers having children with cancer, who showed that the most of family income (72.8%) were less than 1000 LE. and (27.2%) were more than 1000 LE.

The researcher believed that the G.S population is depending on the very low economic status imposed by the siege. This makes it difficult for families to provide a basic health requirement for suffering children.

### 4.1.5 Sample distribution according to the participants' health Insurance, type of health insurance and External assistance.

**Table 4.3: Sample distribution according to the participants' health Insurance, type of health insurance and External assistance N = (110).**

| **Variables** | | **Number** | **Percentage (%)** |
|---|---|---|---|
| **Health Insurance** | Yes | 100 | 90.9 |
| | No | 10 | 9.1 |
| **Type of Health Insurance** | Governmental | 101 | 91.8 |
| | Others | 9 | 8.2 |
| **External Assistance** | Yes | 17 | 15.5 |
| | No | 93 | 84.5 |
| **Total** | | 110 | 100.0 |

Table 4.3 According to the health insurance, the researcher found that the predominant group was study respondents have health insurance as 100 (90.9%) of study respondents and 10 (9.1%) haven't. Regarding the type of health insurance of participants, the results reveal that 91.8% of them governmental and 8.2% have others type of health insurance. External assistance as shown in the above table the lowest percentage of participants 15.5% have assistance and 84.5% haven't assistance.

The researcher believed that the G.S population is depending on the Governmental health insurance because it covers all costs of children with cancer from treatment, care, transfers to treatment and medical investigation that are not available.

### 4.1.6 Frequency distribution of study participants according to chronic diseases, periodic treatment and children with chronic diseases

**Table 4.4: Frequency distribution of study participants according to chronic diseases, periodic treatment and children with chronic diseases N = (110).**

| Variables | | Number | Percentage (%) |
|---|---|---|---|
| **Chronic diseases** | Present | 21 | 19.1 |
| | Not Present | 89 | 80.9 |
| **Periodic treatment** | Present | 21 | 19.1 |
| | Not Present | 89 | 80.9 |
| **Children with chronic diseases** | Present | 43 | 39.1 |
| | Not Present | 67 | 60.9 |
| **Total** | | 110 | 100.0 |

From the above table, the researcher categorized the study respondents according to chronic disease which revealed that (89) 80.9% of study respondents were free from chronic disease and (21) 19.1% presented. Also, majority (80.9%) of the study participants do not have Periodic treatment, while (19.1%) of them do. This study consistent by Khalil et al, (2017) who showed that the most of the participants (70%) didn't suffer from any medical disease compared with only 30% suffered from diabetes, hypertension and cardiac problems. Additionally, the table showed that (60.9%) of the study participants do not have children with chronic diseases, while (39.1%) of them do.

## 4.2 Socio-Demographic characteristics of children

### 4.2.1 Sample distribution according to the participants' Gender

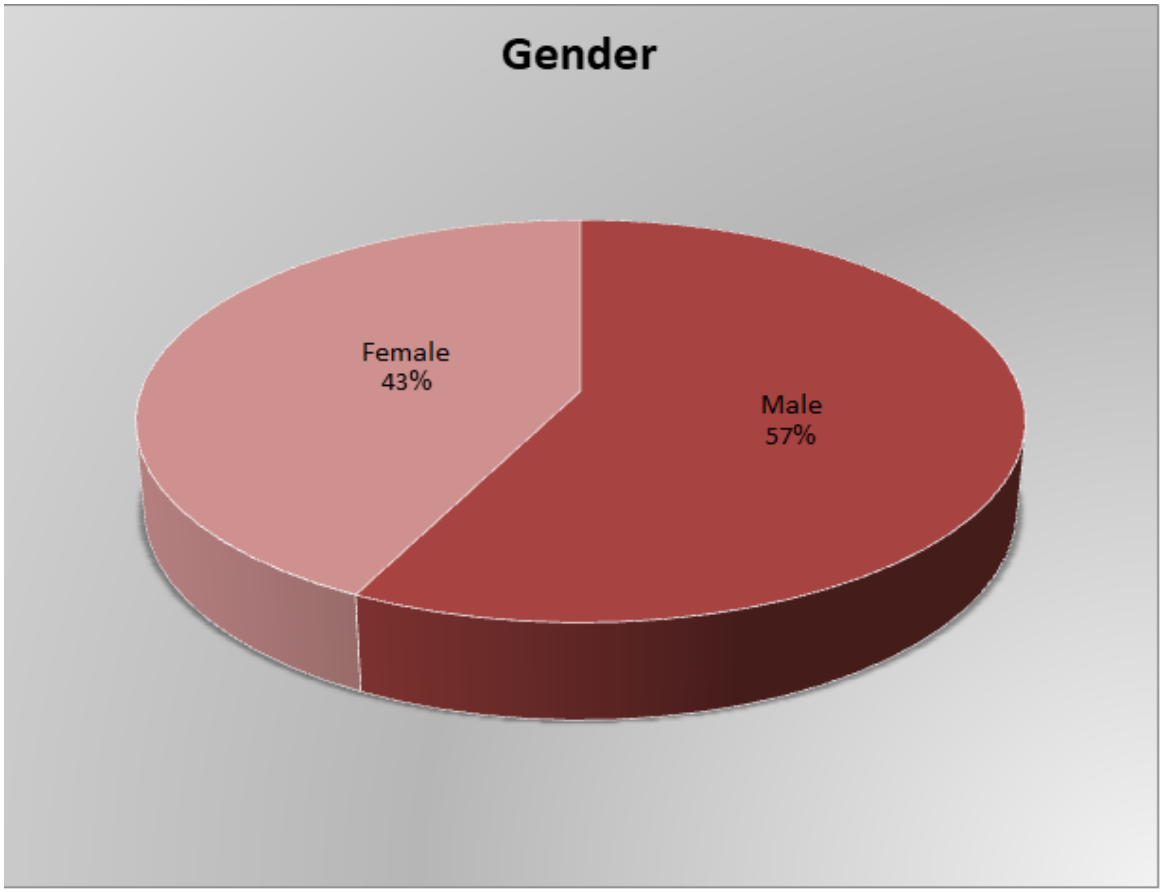


**Figure 4.3: Sample distribution according to the participants' Gender**

Figure 4.3 showed that (57%) of study participants are males and (43%) of them are females. It is consistent with Elnuweiry, (2015) who study that Risk factors for pediatric cancer in the Gaza Strip: a case-control study, the result conducted that male was (55.5%) while female was (44.5%). Also study inconsistent by Alves, et al, (2013) the result conducted that male was (5.9%) while female was (94.1%).

### 4.2.2 Sample distribution according to the participants' child age

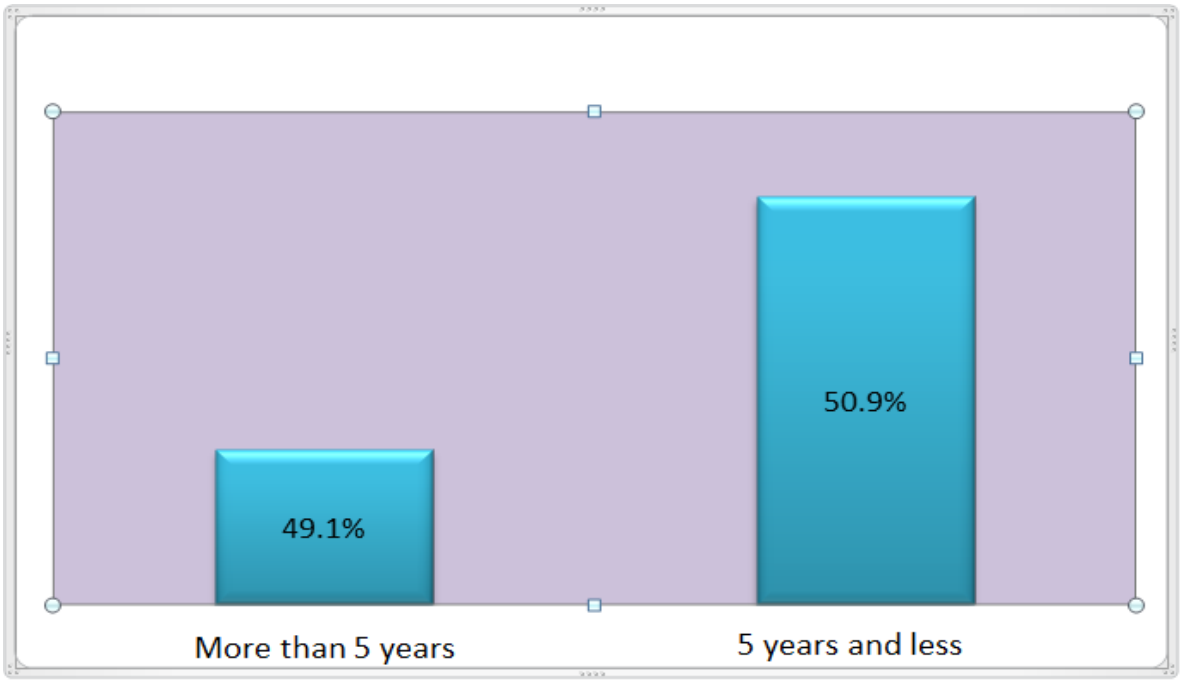


**Figure 4.4: Sample distribution according to the participants' child age**

Figure 4.2 showed that (50.9%) of the study participants age 5 years and less, (49.1%) of the study participants age more than 5 years. Also study consistent by Maunder, (2012) the result was conducted between the ages of 5 and 10 years (53.57%).

Here, the researcher explains that the percentage of cancer among children with cancer above 5 years is low compared with younger child, taking into account the nature of the disease and its complications that led to death with increasing age.

### 4.2.3 Sample distribution according to the participants' diagnosis, and treatment types

**Table 4.5: Sample distribution according to the participants' diagnosis, and treatment types N = (110).**

| **Variables** | | **Number** | **Percentage (%)** |
|---|---|---|---|
| **Diagnosis** | Leukemia | 47 | 42.8 |
| | Lymphoma | 14 | 12.7 |
| | Solid tumor | 49 | 44.5 |
| **Treatment types** | Radiotherapy | 2 | 1.8 |
| | Chemotherapy | 81 | 73.6 |
| | Surgical | 7 | 6.4 |
| | Chemotherapy and radiotherapy | 4 | 3.6 |
| | Radiotherapy and surgical | 1 | 1 |
| | Chemotherapy and surgical | 15 | 13.6 |
| **Total** | | 110 | 100.0 |

According to the above table, the researcher found that the study respondents predominant diagnosis 42.8% of children with cancer were diagnosed with Leukemia, 12.7% had lymphoma, 44.5% solid tumor. This study inconsistent with Rodriguez, et al (2015) who study that maternal coping and depressive symptoms as predictors of mother-child communication about a child's cancer, the result conducted that the Child cancer diagnosis (40%) Leukemia, (19%) lymphoma, (6%) Brain tumor, (35%) solid tumor. This finding consistent with a study conducted by Elnuweiry, (2015) to assess Risk factors for pediatric cancer in the Gaza Strip: a case-control study, the result conducted that 146 children had been diagnosed with pediatric cancer (48%) children had a solid tumor, (35%) had hematological cancer, and (17%) had a lymphoma tumor.

Regarding to the treatment types, results show that the majority of participants 73.6% chemotherapy, 13.6% chemotherapy and surgical, 6.4% surgical, 3.6% chemotherapy and

radiotherapy, 1.8% radiotherapy, and finally 0.9% of participant are radiotherapy and surgical. The researcher explains that children with cancer has been facing problems; such as treatment types, shortage of medical supply and drugs, the Israeli's siege that prevents patients from receiving care and shortage of some types of treatment, consequence of the disease all make the years of cancer suffering for children with cancer.

### 4.2.4 Sample distribution according to the participants' diagnosis date, admission date and treatment beginning date

**Table 4.6: sample distribution according to the participants' diagnosis date, admission date and treatment beginning date N = (110).**

| **Variables** | | **Number** | **Percentage (%)** |
|---|---|---|---|
| **Diagnosis date** | 2012 and before | 19 | 17.3 |
| | After 2012 | 91 | 82.7 |
| **Hospital admission date** | 2012 and before | 19 | 17.3 |
| | After 2012 | 91 | 82.7 |
| **Treatment beginning date** | 2012 and before | 16 | 14.5 |
| | After 2012 | 94 | 85.5 |
| **Total** | | 110 | 100.0 |

Table 4.6 showed that the distribution of study participants according to their diagnosis data, hospital admission date and treatment beginning date of. The table showed that 19 (17.3%) of the study participants were diagnosed with cancer at 2012 and less, 91 (82.7%) of them were diagnosed with cancer after 2012. Additionally, the table showed that 19 (17.3%) of the study participants were hospital admission date at 2012 and less, 91 (82.7%) after 2012. Moreover, 16 (14.5%) of the study participants were treatment beginning date at 2012 and less, 94 (85.5%) after 2012.

### 4.2.5 Sample distribution according to the participants' other chronic diseases, history of family cancer and treatment place

**Table 4.7: Sample distribution according to the participants' other chronic diseases, history of family cancer and treatment place N = (110).**

| **Variables** | | **Number** | **Percentage (%)** |
|---|---|---|---|
| **Other chronic diseases** | Present | 14 | 12.7 |
| | Not Present | 96 | 87.3 |
| **History of Family cancer** | Present | 25 | 22.7 |
| | Not Present | 85 | 77.3 |
| **Treatment place** | Gaza | 11 | 10 |
| | 48 territory | 20 | 18.2 |
| | West bank | 27 | 24.5 |
| | Abroad | 3 | 2.8 |
| | Gaza and 48 territory | 17 | 15.5 |
| | Gaza and West Bank | 24 | 21.8 |
| | Gaza and Abroad | 4 | 3.6 |
| | 48 territory and Abroad | 2 | 1.8 |
| | 48 territory and West bank | 1 | 0.9 |
| | West bank and Abroad | 1 | 0.9 |
| **Total** | | **110** | **100.0** |

From the above table, the researcher categorized the study respondents according to other chronic diseases for child which revealed that (96) 87.3% of study respondents were free from chronic disease, (14) 12.7% of study respondents have chronic disease. According to history of family cancer the researcher found that (85) 77.3% of study respondents not

presents with cancer while the rest of study respondents were presents (25) 22.7%. According to the Treatment place With the highest place is “West bank” with percentage 24.5% and followed by is “Gaza and West Bank” with percentage 21.8%. The researcher explains that children with cancer face problems such as the place of treatment, the Israeli siege that prevents patients from receiving treatment outside the GS or entering the 48 territory and intervening in the exit of any sick child from outside GS. And as a result of this disease make all years of cancer suffering for children with cancer.

### 4.2.6 Total mothers mean stressors of, Percent, and ranking of the six domains

**Table 4.8: Total mothers mean stressors of, percent, and ranking of the domains**

| No. | Domain | No. of Items | Mean | SD | Percent | Rank |
|---|---|---|---|---|---|---|
| 1 | Physical Stressors | 13 | 2.83 | 0.76 | 56.74 | 6 |
| 2 | Psychological Stressors | 10 | 2.93 | 0.90 | 58.68 | 5 |
| 3 | Social Stressors | 9 | 2.99 | 0.63 | 59.96 | 4 |
| 4 | Stressors related to Medical and Nursing Care | 10 | 3.57 | 0.77 | 71.48 | 1 |
| 5 | Financial Stressors | 8 | 3.35 | 0.75 | 67.12 | 3 |
| 6 | Stressors related to knowledge about the disease and its treatment | 9 | 3.47 | 0.84 | 69.58 | 2 |
| | **Total** | 59 | 3.17 | 0.53 | 63.54 | |

From the above table showed that the study results revealed that the total domain mean percentage was perceived as highest rank " Stressors related to Medical and Nursing Care" 71.48% from study respondents and the lowest domain ranking " Physical Stressors" 56.74% from study respondents.

The researcher interpreted that the physician and nursing plays a vital role in coordinating the multiple and complex technologies now commonly employed in cancer diagnosis and treatment. This co-ordination encompasses a direct participation in therapy administration, children care, symptoms management, documentation in medical record, family education as well as counseling throughout diagnosis theory and follow-up, in order to increase mothers coping and reduce stressors. This study inconsistent by Gaafer et al, (2013) to assess stressors and coping strategies of mothers having children with cancer, who showed that the most of studied mothers (86.4%) suffered from psychological stressors followed by financial stressors, stressors related to treatment, physical stressors then social stressors with percentages (83.5%, 74.8%, 52.4%, 5.8% respectively).

### 4.2.7 The mean, mean percentage and P-value about Physical Stressors

**Table 4.9: The mean, mean percentage and P-value about physical Stressors**

| Rank | Physical Stressors | Mean | % | *t | P- value |
|---|---|---|---|---|---|
| 1 | I feel tiered after any activity | 3.25 | 65 | 2.07 | 0.041 |
| 2 | I suffer from insomnia and sleeping difficulty | 3.1 | 62 | 0.83 | 0.408 |
| 3 | I have anorexia | 2.92 | 58.4 | -0.70 | 0.483 |
| 4 | I feel lazy most of the time | 2.91 | 58.2 | -0.81 | 0.417 |
| 4 | I feel shortness of breath for no apparent reason | 2.91 | 58.2 | -0.77 | 0.443 |
| 4 | I suffer from headaches for no apparent reason | 2.91 | 58.2 | -0.73 | 0.464 |
| 4 | I feel pain in my joints for no apparent reason | 2.91 | 58.2 | -0.79 | 0.426 |
| 8 | I have bowel disorder that cause constipation | 2.84 | 56.8 | -1.35 | 0.178 |
| 9 | Increase of heart rate | 2.77 | 55.4 | -2.05 | 0.043 |
| 10 | I suffer from digestive disorder | 2.75 | 55 | -2.25 | 0.026 |
| 11 | I feel pain in my stomach most of the time | 2.58 | 51.6 | -3.80 | 0.000 |
| 12 | I have problem while urination | 2.54 | 50.8 | -3.99 | 0.000 |
| 13 | I have bowel disorder that causes diarrhea | 2.51 | 50.2 | -4.39 | 0.000 |
| **Total** | | **2.83** | **56.7** | **-2.24** | **0.027** |

* one sample t test

Table 4.9 showed that the highest item is “I feel tiered after any activity” with percentage 65% , (P-value=0.041), and the lowest item is “I have bowel disorder that causes diarrhea” with percentage 50.2%, (P-value = 0.000). A study consistent by Rodriguez, et al (2012) to assess Cancer-related sources of stress for children with cancer and their parents, who showed that the mothers reported significantly higher physical stressors in daily/role functioning.

### 4.2.8 The mean, mean percentage and P-value about Psychological Stressors

**Table 4.10: The mean, mean percentage and P-value about psychological Stressors**

| Rank | Psychological Stressors | Mean | % | *t | P-value |
|---|---|---|---|---|---|
| 1 | I am worried about the future of my child | 3.31 | 66.2 | 2.27 | 0.025 |
| 2 | I feel sad for simple reason | 3.13 | 62.6 | 1.00 | 0.317 |
| 3 | I think having a child with cancer in the family is a big disaster for her. | 3.09 | 61.8 | 0.64 | 0.521 |
| 4 | I cannot control my nerves for simple reason | 3.07 | 61.4 | -0.56 | 0.574 |
| 5 | I am concerned about the multiplicity of instruction that I give to my child | 3 | 60 | 0.00 | 1.00 |
| 6 | It is hard to remember things ever if they are simple | 2.97 | 59.4 | -0.21 | 0.828 |
| 7 | I do not feel any pleasure in my life | 2.95 | 59 | 0.35 | 0.726 |
| 8 | I feel frustrated and unwilling to life | 2.71 | 54.2 | -2.38 | 0.019 |
| 8 | I think it is pointless to try to teach my child like other children | 2.71 | 54.2 | -2.14 | 0.034 |
| 10 | I feel that all what I do for my child is lost effort | 2.45 | 49 | -4.64 | 0.000 |
| **Total** | | **2.93** | **58.7** | **-0.76** | **0.445** |

*one sample t test

Table 4.10 showed that the total domain mean and percentage 2.93, (58.7%) respectively. As the highest item " I am worried about the future of my child" with mean and percentage 3.31, (66.2%) respectively. the lowest item in this domain " I feel that all what I do for my child is lost effort " by frequent bending with mean and percentage 2.45, (49%) respectively.

A study consistent by Masa'Deh, et al (2013) who showed that who mentioned that mothers with cancer children have high level of psychological stressors as manifested by sad, anxious, feeling of hopelessness or pessimism, feeling of guilt, difficult of concentration or making decisions, restlessness and insomnia or over sleeping, psychological support to be developed for parent caring for a child with cancer.

### 4.2.9 The mean, mean percentage and P-value about Social Stressors

**Table 4.11: The mean, mean percentage and P-value about social Stressors**

| Rank | Social Stressors | Mean | % | *t | P-value |
|---|---|---|---|---|---|
| 1 | A family member helps me with my child | 3.65 | 73 | 5.28 | 0.000 |
| 2 | I completely do all the care and follow up requirement for my child | 3.61 | 72.2 | 4.53 | 0.000 |
| 3 | I avoid talking about the case of my child | 3.18 | 63.6 | 1.52 | 0.130 |
| 4 | My child's care negatively effects the rest of my family | 3.11 | 62.2 | 0.85 | 0.396 |
| 5 | I cannot visit my relatives whenever I want | 2.81 | 56.2 | 1.49 | 0.137 |
| 6 | I sometimes feel embarrassed because of my child | 2.65 | 53 | -2.60 | 0.009 |
| 7 | It offends me to get people away from our family because of the case of my child | 2.63 | 52.6 | -2.90 | 0.004 |
| 8 | I think my son will be a permanent problem for the family | 2.58 | 51.6 | -3.20 | 0.001 |
| 9 | I feel that my friends have abandoned because of my child | 2.39 | 47.8 | -4.80 | 0.000 |
| **Total** | | **2.95** | **59.1** | **-0.03** | **0 .974** |

*one sample t test

Table 4.11 showed that the highest items is “A family member helps me with my child” which has a score of (73%) out of 100.0%, followed by “I completely do all the care and follow up requirement for my child” item which has a score of (72.2%). On the other hand, the lowest item score is “I feel that my friends have abandoned because of my child “ which has a score of (47.8%). The total mean percentage of the domain is (59.11%).

### 4.2.10 The mean, mean percentage and P-value about stressors related to medical and nursing care

**Table 4.12: The mean, mean percentage and P-value about stressors related to medical and nursing care**

| Rank | Stressors related to Medical and Nursing Care | Mean | % | *t | P-value |
|---|---|---|---|---|---|
| 1 | The psychological and cognitive requirement are very important for me and my child | 3.85 | 77 | 7.22 | 0.000 |
| 2 | The attention of the medical and nursing staff in my child case makes me hopeful | 3.85 | 77 | 6.97 | 0.000 |
| 3 | I trust the medical and nursing staff who are well experience | 3.84 | 76.8 | 7.30 | 0.000 |
| 4 | The explanation of the disease and its development makes me able to deal with in | 3.83 | 76.6 | 6.64 | 0.000 |
| 5 | I am worried about the many nightly stays inside the hospital | 3.75 | 75 | 6.87 | 0.000 |
| 6 | I feel comfortable with a certain number of the medical and nursing staff | 3.61 | 72.2 | 5.11 | 0.000 |
| 7 | I feel safe in the hospital | 3.57 | 71.4 | 4.79 | 0.000 |
| 8 | In general, I feel comfortable to deal with the staff | 3.53 | 70.6 | 4.35 | 0.000 |
| 9 | I would like to deal with medical and nursing stuff under training | 3.21 | 64.2 | 1.84 | 0.068 |
| 10 | I prefer to complete the rest of the treatment at home | 3.09 | 61.8 | 0.76 | 0.446 |
| **Total** | | **3.57** | **71.4** | **7.79** | **0.000** |

***** one sample t test

In the above table mothers who agreed and strongly agreed that ″ The attention of the medical and nursing staff in my child case makes me hopeful ″ &*″* The psychological and cognitive requirement is very important for me and my child" represented (77%) and (77%) respectively. While they agreed and other neutrally that" I am worried about the many nightly stays inside the hospital " represented (75%). Also, the mothers disagreed and neutrally " I prefer to complete the rest of the treatment at home ″ represented (61.8%). A study consistent by Nair, et al. (2017) who showed that in societies like ours, the need of the hour is for the medical and nursing team to go proactively into the parents' psychological realm and provide correct and scientific information in a gentle manner that can be absorbed by them. Also ,another study consistent by Alves, et al.(2013) to assess stress related to care: the impact of childhood cancer on the lives of parents, showed that some parents show high levels of stress and cannot feel sufficiently secure to trust the care provided by nursing and healthcare staff.

### 4.2.11 The mean, mean percentage and P-value about financial Stressors

**Table 4.13: The mean, mean percentage and P-value about financial Stressors**

| Rank | Financial Stressors | Mean | % | *t | P-value |
|---|---|---|---|---|---|
| 1 | I have given up many needed things because of my child's needs. | 3.6 | 72 | 4.60 | 0.000 |
| 2 | The burdens of caring for my child outweigh our financial possibilities. | 3.59 | 71.8 | 4.55 | 0.000 |
| 2 | It pains me that we do not have the expense of traveling abroad in case we need to travel. | 3.59 | 71.8 | 4.48 | 0.000 |
| 4 | It is difficult for us to pay for the medical treatment outside the hospital. | 3.54 | 70.8 | 3.98 | 0.000 |
| 5 | The requirements of my child's care are many and exhausting. | 3.45 | 69 | 3.66 | 0.000 |
| 6 | It is difficult for a family whose child is in cancer to plan for the future. | 3.18 | 63.6 | 1.43 | 0.156 |
| 7 | We have the financial ability to provide The requirements of our child. | 3.15 | 63 | 1.23 | 0.221 |
| 8 | Others provide financial support to us. | 2.75 | 55 | -1.72 | 0.008 |
| **Total** | | **3.35** | **67.1** | **4.97** | **0.000** |

* one sample t test

Table 4.13 showed that the Financial Stressors the total domain mean and percentage 3.35, (67.1%) respectively. As the highest item, " I have given up many needed things because of my child's needs " with mean and percentage 3.6, (72%) respectively. The lowest item in this domain " Others provide financial support to us " by frequent bending with mean and percentage 2.75,( 55%) respectively.

This study consistent with Sneha, et al (2017) who showed that the financial burden of the illness has emerged as a major source of distress, second only to the disease itself of the financial concerns, the costs pose significant problems, as they must be paid as they are incurred and are never reimbursed.

### 4.2.12 The mean, mean percentage and P-value about stressors related to knowledge about the disease and its treatment

**Table 4.14: The mean, mean percentage and P-value about stressors related to knowledge about the disease and its treatment**

| Rank | Stressors related to knowledge about the disease and its treatment | Mean | % | *t | P-value |
|---|---|---|---|---|---|
| 1 | The diagnosis of the disease was can firmed after doing all needed tests and samples | 3.79 | 75.8 | 6.52 | 0.000 |
| 2 | I tried to find out about cancer | 3.67 | 73.4 | 5.71 | 0.000 |
| 3 | We told the doctors about the diagnosis clearly | 3.65 | 73 | 5.40 | 0.000 |
| 4 | All the complication that my child may have were explained to me | 3.65 | 73 | 5.43 | 0.000 |
| 5 | Medical staff explained the treatment plan | 3.6 | 72 | 5.22 | 0.000 |
| 6 | The medical staff explained the stage of the disease | 3.49 | 69.8 | 4.26 | 0.000 |
| 7 | I had a belief that recovery from cancer is very difficult | 3.34 | 66.8 | 2.71 | 0.008 |
| 8 | I thought that cancer effects adults only | 3.18 | 63.6 | 1.49 | 0.139 |
| 9 | I have the prior knowledge about the disease and its treatment | 2.95 | 59 | -0.45 | 0.653 |
| **Total** | | **3.47** | **69.5** | **5.96** | **0.000** |

* one sample t test

Table 4.14 showed that the total domain mean and percentage was 3.47, (69.5%) which mean that the frequency was high, the highest item " The diagnosis of the disease was can firmed after doing all needed tests and samples" with percentage (75.8%) followed " I tried to find out about cancer " with percentage (73.4%) while the lowest item was " I have the prior knowledge about the disease and its treatment" with percentage (59%). A study consistent by Nair, et al. (2017) who showed that the parental fear and anxiety arise mostly due to lack of knowledge about the disease and treatment, association of cancer with incurability, pain and death, and the accompanying uncertainty. found that inadequate knowledge of disease, treatment, and complications is the main challenge among mothers of children with cancer.

### 4.2.13 The mothers' stressors regarding child with cancer according to age groups

**Table 4.15: The mothers' stressors regarding child with cancer according to age groups (N= 110).**

| No. | Domains | Age groups (years) | N | Mean | SD | *F | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | 25 and less | 19 | 2.62 | 0.73 | 1.17 | 0.324 |
| | | 26-35 | 44 | 2.81 | 0.76 | | |
| | | 36-40 | 33 | 2.89 | 0.78 | | |
| | | >40 | 14 | 3.10 | 0.75 | | |
| 2 | **Psychological Stressors** | 25 and less | 19 | 2.72 | 1.09 | 1.49 | 0.221 |
| | | 26-35 | 44 | 2.81 | 0.75 | | |
| | | 36-40 | 33 | 3.17 | 0.93 | | |
| | | >40 | 14 | 3.07 | 1.02 | | |
| 3 | **Social Stressors** | 25 and less | 19 | 2.82 | 0.71 | 2.58 | 0.057 |
| | | 26-35 | 44 | 2.87 | 0.64 | | |
| | | 36-40 | 33 | 3.16 | 0.61 | | |
| | | >40 | 14 | 3.25 | 0.43 | | |
| 4 | **Stressors related to Medical and Nursing Care** | 25 and less | 19 | 3.40 | 1.00 | 0.40 | 0.754 |
| | | 26-35 | 44 | 3.61 | 0.58 | | |
| | | 36-40 | 33 | 3.61 | 0.84 | | |
| | | >40 | 14 | 3.63 | 0.83 | | |
| 5 | **Financial Stressors** | 25 and less | 19 | 3.09 | 0.84 | 2.22 | 0.090 |
| | | 26-35 | 44 | 3.30 | 0.79 | | |
| | | 36-40 | 33 | 3.42 | 0.64 | | |
| | | >40 | 14 | 3.73 | 0.65 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | 25 and less | 19 | 3.18 | 0.94 | 1.18 | 0.321 |
| | | 26-35 | 44 | 3.54 | 0.74 | | |
| | | 36-40 | 33 | 3.48 | 0.79 | | |
| | | >40 | 14 | 3.70 | 1.09 | | |
| | **Total** | 25 and less | 19 | 2.95 | 0.58 | 2.37 | 0.075 |
| | | 26-35 | 44 | 3.14 | 0.51 | | |
| | | 36-40 | 33 | 3.27 | 0.46 | | |
| | | >40 | 14 | 3.39 | 0.61 | | |

*One-way ANOVA test

Table 4.15 showed that there is no statistical significant differences (P-value >0.05) between all domains. While there is a difference in the means of most domains between age groups its observed that older participant (>40 years old) have the highest mean score in most domains, this means that this age groups are more experienced, more knowledgeable, more manageable and more oriented mothers.

A study inconsistent by Barrera, et al (2011) who showed that the results for mothers of children with multiple myeloma showed age of parents have been found to be associated with psychological distress.

### 4.2.14 The mothers' stressors regarding child with cancer according to education level

**Table 4.16: The mothers' stressors regarding child with cancer according to education level (N= 110).**

| No. | Domains | Education level | N | Mean | SD | *F | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | Tawgehi and less | 76 | 2.81 | 0.75 | 0.23 | 0.797 |
| | | Diploma | 7 | 2.791 | 0.57 | | |
| | | Bachelor and more | 27 | 2.923 | 0.85 | | |
| 2 | **Psychological Stressors** | Tawgehi and less | 76 | 2.969 | 0.99 | 0.42 | 0.659 |
| | | Diploma | 7 | 2.8 | 0.59 | | |
| | | Bachelor and more | 27 | 2.888 | 0.74 | | |
| 3 | **Social Stressors** | Tawgehi and less | 76 | 2.976 | 0.66 | 0.61 | 0.547 |
| | | Diploma | 7 | 3.079 | 0.43 | | |
| | | Bachelor and more | 27 | 2.864 | 0.62 | | |
| 4 | **Stressors related to Medical and Nursing Care** | Tawgehi and less | 76 | 3.583 | 0.80 | 0.11 | 0.897 |
| | | Diploma | 7 | 3.441 | 0.98 | | |
| | | Bachelor and more | 27 | 3.582 | 0.65 | | |
| 5 | **Financial Stressors** | Tawgehi and less | 76 | 3.406 | 0.75 | 1.17 | 0.314 |
| | | Diploma | 7 | 2.964 | 0.47 | | |
| | | Bachelor and more | 27 | 3.314 | 0.79 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | Tawgehi and less | 76 | 3.45 | 0.86 | 0.98 | 0.378 |
| | | Diploma | 7 | 3.174 | 0.89 | | |
| | | Bachelor and more | 27 | 3.637 | 0.79 | | |
| | **Total** | Tawgehi and less | 76 | 3.184 | 0.56 | 0.43 | 0.654 |
| | | Diploma | 7 | 3 | 0.28 | | |
| | | Bachelor and more | 27 | 3.203 | 0.49 | | |

*One-way ANOVA test

Table 4.16 showed that there is no statistical significant differences (P-value>0.05) between all domains. While there is a difference in the means most of domains, its observed that those whom have Bachelor and higher studies have the highest mean score in their perceptions regarding most domains, this indicate that the who have higher qualifications have more assessment of evaluation of themselves, coping and reduce stressors. A study consistent by Feizi, et al (2014) showed that there was also a significant difference between the score of parenting stress of mothers with high school or college degrees.

### 4.2.15 The mothers' stressors regarding child with cancer according to child diagnosis

**Table 4.17: The mothers' stressors regarding child with cancer according to child diagnosis (N= 110).**

| No. | Domains | Child diagnosis | N | Mean | SD | *F | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | Leukemia | 47 | 2.60 | 0.72 | 4.82 | **0.010** |
| | | Lymphoma | 14 | 3.21 | 0.80 | | |
| | | Solid tumor | 49 | 2.96 | 0.73 | | |
| 2 | **Psychological Stressors** | Leukemia | 47 | 2.72 | 0.92 | 3.09 | **0.050** |
| | | Lymphoma | 14 | 3.36 | 0.83 | | |
| | | Solid tumor | 49 | 3.01 | 0.88 | | |
| 3 | **Social Stressors** | Leukemia | 47 | 2.97 | 0.65 | 0.56 | 0.573 |
| | | Lymphoma | 14 | 3.17 | 0.73 | | |
| | | Solid tumor | 49 | 2.98 | 0.61 | | |
| 4 | **Stressors related to Medical and Nursing Care** | Leukemia | 47 | 3.71 | 0.78 | 1.31 | 0.275 |
| | | Lymphoma | 14 | 3.47 | 0.63 | | |
| | | Solid tumor | 49 | 3.47 | 0.80 | | |
| 5 | **Financial Stressors** | Leukemia | 47 | 3.45 | 0.70 | 5.08 | **0.008** |
| | | Lymphoma | 14 | 3.79 | 0.71 | | |
| | | Solid tumor | 49 | 3.14 | 0.75 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | Leukemia | 47 | 3.50 | 0.82 | 0.13 | 0.880 |
| | | Lymphoma | 14 | 3.56 | 0.71 | | |
| | | Solid tumor | 49 | 3.44 | 0.91 | | |
| | **Total** | Leukemia | 47 | 3.12 | 0.53 | 1.76 | 0.177 |
| | | Lymphoma | 14 | 3.42 | 0.47 | | |
| | | Solid tumor | 49 | 3.16 | 0.54 | | |

*One-way ANOVA test

Table 4.17 showed that there is no statistically significant relationship between domains and child diagnosis which mean that there were differences in mean among study respondents answers but did not reach statically significant level except the physical stressors (P-value= 0.010), Post hoc analysis was done using tukey test and showed that

the difference is between those who have leukemia and those who lymphoma in favor of those who have solid tumor, psychological stressors (P-value=0.050), and financial stressors (P-value= 0.008), Post hoc analysis was done using tukey test and showed that the difference is between those who have lymphoma and those who solid tumor in favor of those who have leukemia. A study consistent by Feizi, et al (2014) showed that assessing the total score of parenting stress in parents of children with problems showed that there was a meaningful relationship between the kind of diagnosis that child is suffering from and the score of parenting stress ($P < 0.01$).

### 4.2.16 The mothers' stressors regarding child with cancer according to level of income

**Table 4.18: The mothers' stressors regarding child with cancer according to level of income (N= 110).**

| No. | Domains | Income (Shekel) | N | Mean | SD | *F | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | Below 500 | 48 | 2.78 | 0.75 | 0.39 | 0.676 |
| | | 500 – 1000 | 38 | 2.92 | 0.75 | | |
| | | More than 1000 | 24 | 2.82 | 0.82 | | |
| 2 | **Psychological Stressors** | Below 500 | 48 | 2.87 | 1.02 | 0.61 | 0.545 |
| | | 500 – 1000 | 38 | 2.97 | 0.87 | | |
| | | More than 1000 | 24 | 3.02 | 0.76 | | |
| 3 | **Social Stressors** | Below 500 | 48 | 2.97 | 0.67 | 0.38 | 0.683 |
| | | 500 – 1000 | 38 | 2.9 | 0.68 | | |
| | | More than 1000 | 24 | 3.02 | 0.47 | | |
| 4 | **Stressors related to Medical and Nursing Care** | Below 500 | 48 | 3.51 | 0.84 | 1.54 | 0.218 |
| | | 500 – 1000 | 38 | 3.5 | 0.79 | | |
| | | More than 1000 | 24 | 3.82 | 0.55 | | |
| 5 | **Financial Stressors** | Below 500 | 48 | 3.35 | 0.81 | 0.82 | 0.444 |
| | | 500 – 1000 | 38 | 3.26 | 0.75 | | |
| | | More than 1000 | 24 | 3.51 | 0.60 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | Below 500 | 48 | 3.43 | 0.90 | 1.85 | 0.162 |
| | | 500 – 1000 | 38 | 3.36 | 0.89 | | |
| | | More than 1000 | 24 | 3.76 | 0.55 | | |
| | **Total** | Below 500 | 48 | 3.13 | 0.58 | 1.20 | 0.304 |
| | | 500 – 1000 | 38 | 3.14 | 0.54 | | |
| | | More than 1000 | 24 | 3.33 | 0.38 | | |

*One-way ANOVA test

Table 4.18 showed that there is no statistically significant difference in the stressors among mothers between their different families‟ income. Showed that the difference is between those who have family income below 1000 Shekel and more than 1000 Shekel in favor of those who have family income more than 1000 Shekel, The researcher believed that the Gaza population is depending on the very low economic status imposed by the siege. This makes it difficult for families to provide a basic health requirement for suffering children.

A study consistent with Rodriguez, et al (2012), who showed that the family income was not significant with mothers' and fathers' daily/role functioning stressors. This result consisted by Bemis, (2013) to assess socio-demographic disadvantage, stress, and parenting in mothers of children with cancer, showed that annual family income was significantly negatively correlated with all four measures of mothers' psychological distress and stress (P-value < 0.05).

### 4.2.17 The mothers' stressors regarding child with cancer according to house

**Table 4.19: The mothers' stressors regarding child with cancer according to house (N= 110).**

| No. | Domains | House | N | Mean | SD | *t | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | Owned | 89 | 2.83 | 0.76 | 0.01 | 0.817 |
| | | Rented | 21 | 2.83 | 0.77 | | |
| 2 | **Psychological Stressors** | Owned | 89 | 2.96 | 0.89 | 0.74 | 0.230 |
| | | Rented | 21 | 2.80 | 0.99 | | |
| 3 | **Social Stressors** | Owned | 89 | 2.99 | 0.63 | -0.18 | 0.527 |
| | | Rented | 21 | 3.02 | 0.67 | | |
| 4 | **Stressors related to Medical and Nursing Care** | Owned | 89 | 3.57 | 0.74 | -0.09 | 0.229 |
| | | Rented | 21 | 3.58 | 0.90 | | |
| 5 | **Financial Stressors** | Owned | 89 | 3.34 | 0.72 | -0.33 | 0.328 |
| | | Rented | 21 | 3.40 | 0.85 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | Owned | 89 | 3.49 | 0.83 | 0.39 | 0.735 |
| | | Rented | 21 | 3.41 | 0.87 | | |
| | **Total** | Owned | 89 | 3.18 | 0.51 | 0.18 | 0.180 |
| | | Rented | 21 | 3.15 | 0.59 | | |

* independent t-test

Table 4.19 showed that there is no statistically significant difference between house and mother stressors in all domains, (P-value= 0.180). The researcher believed that there are most of the families in Gaza lived with their families within extended families.

### 4.2.18 The mothers' stressors regarding child with cancer according to husband job

**Table 4.20: The mothers' stressors regarding child with cancer according to husband job (N= 110).**

| No. | Domains | Husband Job | N | Mean | SD | *t | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | working employed | 59 | 2.73 | 0.75 | -1.51 | 0.556 |
| | | not employed | 51 | 2.95 | 0.75 | | |
| 2 | **Psychological Stressors** | working employed | 59 | 2.74 | 0.83 | -2.40 | 0.157 |
| | | not employed | 51 | 3.15 | 0.95 | | |
| 3 | **Social Stressors** | working employed | 59 | 2.93 | 0.58 | -1.19 | 0.305 |
| | | not employed | 51 | 3.07 | 0.68 | | |
| 4 | **Stressors related to Medical and Nursing Care** | working employed | 59 | 3.63 | 0.72 | 0.94 | 0.307 |
| | | not employed | 51 | 3.49 | 0.82 | | |
| 5 | **Financial Stressors** | working employed | 59 | 3.27 | 0.74 | -1.24 | 0.813 |
| | | not employed | 51 | 3.45 | 0.75 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | working employed | 59 | 3.51 | 0.76 | 0.49 | 0.083 |
| | | not employed | 51 | 3.43 | 0.93 | | |
| | **Total** | working employed | 59 | 3.11 | 0.43 | -1.21 | 0.020 |
| | | not employed | 51 | 3.24 | 0.61 | | |

*independent t-test

Table 4.20 showed that the differences between husband job and the study domains. There is no statistically significant difference between husband job and mother stressors in all domains. The researcher believed that the siege, low economic situation in the Gaza and early marriage, forced many Palestinian citizens to leave education at an early stage, and increased rate of unemployment in GS.

### 4.2.19 The mothers' stressors regarding child with cancer according to chronic disease

**Table 4.21: The mothers' stressors regarding child with cancer according to chronic disease (N= 110).**

| No. | Domains | Chronic disease | N | Mean | SD | *t | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | Present | 21 | 3.16 | 0.80 | 2.26 | 0.896 |
| | | Not Present | 89 | 2.75 | 0.73 | | |
| 2 | **Psychological Stressors** | Present | 21 | 2.92 | 1.12 | -0.02 | **0.036** |
| | | Not Present | 89 | 2.93 | 0.85 | | |
| 3 | **Social Stressors** | Present | 21 | 3.00 | 0.70 | 0.01 | 0.412 |
| | | Not Present | 89 | 2.99 | 0.62 | | |
| 4 | **Stressors related to Medical and Nursing Care** | Present | 21 | 3.69 | 1.02 | 0.62 | **0.033** |
| | | Not Present | 89 | 3.54 | 0.70 | | |
| 5 | **Financial Stressors** | Present | 21 | 3.35 | 0.82 | 0.01 | 0.433 |
| | | Not Present | 89 | 3.35 | 0.73 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | Present | 21 | 3.44 | 0.89 | -0.20 | 0.821 |
| | | Not Present | 89 | 3.48 | 0.83 | | |
| | **Total** | Present | 21 | 3.26 | 0.66 | 0.82 | 0.078 |
| | | Not Present | 89 | 3.15 | 0.49 | | |

*independent t-test

Table 4.21 showed that the differences between chronic disease and the study domains. The researcher didn't find a statistically significant relationship between domains and chronic disease which mean that there were differences in mean among study respondents answers but did not reach statically significant level except the psychological stressors and stressors related to medical and nursing care domain which have a statistical relationship at (P-value =0.036 , 0.033) respectively.

### 4.2.20 The mothers' stressors regarding child with cancer according to mother job

**Table 4.22: The mothers' stressors regarding child with cancer according to mother job (N= 110).**

| No. | Domains | Mother Job | N | Mean Score | SD | *t | P-value |
|---|---|---|---|---|---|---|---|
| 1 | **Physical Stressors** | working employed | 8 | 2.65 | 0.74 | -0.70 | 0.813 |
| | | not employed | 102 | 2.85 | 0.76 | | |
| 2 | **Psychological Stressors** | working employed | 8 | 3.25 | 0.68 | 1.02 | 0.405 |
| | | not employed | 102 | 2.91 | 0.92 | | |
| 3 | **Social Stressors** | working employed | 8 | 3.24 | 0.30 | 2.06 | **0.019** |
| | | not employed | 102 | 2.98 | 0.65 | | |
| 4 | **Stressors related to Medical and Nursing Care** | working employed | 8 | 3.76 | 0.49 | 0.70 | 0.228 |
| | | not employed | 102 | 3.56 | 0.79 | | |
| 5 | **Financial Stressors** | working employed | 8 | 3.31 | 0.63 | -0.16 | 0.458 |
| | | not employed | 102 | 3.36 | 0.76 | | |
| 6 | **Stressors related to knowledge about the disease and its treatment** | working employed | 8 | 4.08 | 0.59 | 2.14 | 0.312 |
| | | not employed | 102 | 3.43 | 0.84 | | |
| | **Total** | working employed | 8 | 3.35 | 0.32 | 0.95 | 0.26 |
| | | not employed | 102 | 3.16 | 0.54 | | |

* independent t-test

Table 4.22 showed that the differences between the mother job and the study domains. The researcher didn't find a statistically significant relationship between domains and mothers job which mean that there were differences in mean among study respondents answers but did not reach statically significant level except the social stressors domain which has a statistical relationship at (P-value= 0.019). This finding inconsistent with a study conducted by Masa'Deh, et al (2013) who showed that the job status of the parent (employed vs. unemployed) was found to be a predictor of stress levels for the fathers but not the mothers. Although more women than men reported that they left their job to stay with the ill child, fathers' but not mothers' high-stress levels were associated with being unemployed. This study consistent with Gravestock, et al (2011) who showed that more mothers left their job than fathers in order to care for an ill child.

### 4.2.21 The correlation between mothers stressors and domains

**Table 4.23: The correlation between mothers stressors and domains**

| Domains | *r | P-value |
|---|---|---|
| Physical Stressors | 0.618 | 0.000 |
| Psychological Stressors | 0.816 | 0.000 |
| Social Stressors | 0.603 | 0.000 |
| Stressors related to Medical and Nursing Care | 0.579 | 0.000 |
| Financial Stressors | 0.727 | 0.000 |
| Stressors related to knowledge about the disease and its treatment | 0.689 | 0.000 |

***r:** Pearson Correlation coefficient

Table 4.23 showed that there is a correlation between mothers stressors and domains. Pearson correlation showed that a strong positive statistically significant correlation between mothers stressors and all domain ( P-value=0.000).

# Chapter Five

## Conclusion and Recommendations

This chapter represents the conclusion of findings and results which were clarified previously from analysis. Also, this chapter includes recommendations for the decision makers to focus on improving and decreasing the stressors facing mothers of child with cancer.

## 5.1 Conclusion

According the result of the study we can conclude that the result showed that the mothers of child with cancer that the total domain mean percentage was perceived as highest rank stressors related to medical and nursing care from study respondents, followed by stressors related to knowledge about the disease and its treatment, financial stressors, social stressors, psychological stressors and the lowest domain ranking physical stressors from study respondents respectively.

The results showed that there is a statistically significant difference in the physical stressors, psychological stressors, and financial stressors domain which have a statistical relationship between mothers stressors and child diagnosis. Moreover, the result showed that there is a statistically significant difference in the psychological stressors and stressors related to medical and nursing care domain which have a statistical relationship between mothers stressors and chronic disease. Furthermore, a study showed that there is a statistically significant difference in the social stressors domain which has a statistical relationship between mothers stressors and mother Job.

finally, The study results showed that the correlation between mothers stressors and domains. Pearson correlation showed that the strong positive statistically significant correlation between mothers stressors and all domain.

The results showed that there is no statistically significant difference in all domain and (age groups, education level, income, house, husband job).

## 5.2 Recommendation

The following recommendations are proposed for related authority or operator in order to improve the child and mothers health. which will lead to reduce the stressors of mothers. The study gives recommendations for further researches and studies include :

1. Oncology authority in order should arrange for programs for cancer children and their mothers which can provide them with adequate information and improve physician and nurse skills regarding management of cancer and management side effects of its treatment.
2. Educational programs for nurses to be aware of the mother's stressors and avoid their stressors.
3. Encourage mothers for coping effectively with their children's disease to maximize their level of coping and adaptation.
4. Nurses should be participated in providing mothers having children with cancer through handouts and pamphlets about cancer and management of side effects of its treatment modalities to alleviate stressors related side effects of cancer treatment.
5. Emphasize psychology support services in MOH together with medical treatment.
6. Involvement and sharing family member and father in the child care.
7. improving and facilitate communication and collaboration, it is necessary to healthcare provider more specific in the terminology used to communicate.
8. Establishment of counseling clinic especially for parents of children with cancer, to Promote care, reduce stressors, and consequently, enhance the quality of life.
9. Further study to identify the actual training needs for oncology nurses.
10. Providing palliative care by healthcare provider to improve the quality of life.

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# Annexes

## Annex (1) Approval from Helsinki committee

المجلس الفلسطيني للبحث الصحي
Palestinian Health Research Council

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

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

**Helsinki Committee**
**For Ethical Approval**

**Date: 05/02/2018** **Number:** PHRC/HC/344/18

**Name:** OSMAN K. HABIB الاسم:

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

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

**Stressful Factors in Mothers of Children with Cancer at El Ranteesy Pediatric Specialized Hospital -Gaza Strip.**

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/344/18 in its meeting on 05/02/2018

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

**Signature**

**Member** **Member**

**Chairman**

**Genral Conditions:-**

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

**Specific Conditions:-**

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين
شارع النصر - مفترق العيون

# Annex (2) Approval from MOH

State of Palestine
Ministry of health

دولة فلسطين
وزارة الصحة

التاريخ:10/04/2018
رقم المراسلة 208107

السيد : رامي عيد سلمان العبادله المحترم

مدير عام بالوزارة /الإدارة العامة لتنمية القوى البشرية - /وزارة الصحة

السلام عليكم ،،،

الموضوع/ تسهيل مهمة الباحث//عثمان حبيب

التفاصيل //
بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث/ عثمان خالد حبيب
الملتحق ببرنامج ماجستير التمريض - تخصص صحة الأم والطفل- جامعة القدس أبوديس في إجراء بحث بعنوان:-
"العوامل المعيقة لدى أمهات الأطفال المصابين بالسرطان في مستشفى الرنتيسي التخصصي للأطفال - قطاع غزة"
حيث الباحث بحاجة لتعبئة استبانة من عدد من أمهات الأطفال المرضى بالسرطان المترددين او المنومين في مستشفى الرنتيسي التخصصي للأطفال ومستشفى غزة الأوربي.
نأمل توجيهاتكم للذوي الاختصاص بضرورة الحصول على الموافقة المستنيرة من الأمهات اللاتي لديهن استعداد للمشاركة في البحث ومن ثم تمكين الباحث من التواصل معهن، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، ودون تحمل الوزارة أي أعباء أو مسؤولية
وتفضلوا بقبول التحية والتقدير،،،
ملاحظة/ البحث متسل على موافقة لجنة اخلاقيات البحث الصحي
ملاحظة / تسهيل المهمة الخاص بالدراسة أعلاه، صالح لمدة 6 شهر من تاريخه.

محمد ابراهيم محمد السرساوي
مدير دائرة/الإدارة العامة لتنمية القوى البشرية -

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

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

## Annex (3) Control panel

| No. | Name | Position |
|---|---|---|
| 1 | Dr. Ahmed Najem | Al-Azhar University- Gaza |
| 2 | Dr. Hatem Eldabaky | Al-Quds University – Gaza |
| 3 | Dr. Mahmoud Shobeir | Consultant of pediatric oncology |
| 4 | Dr. Mohammed Al Jerjawy | Palestine College of Nursing |
| 5 | Dr. Aymen Elsous | Ministry of Health |
| 6 | Mr. Mohanad Hamdan | Ministry of Health |

## Annex (4) Questionnaire (English)

Dear Mother:

I am pleased to participate actively in the research entitled " **Stressful Factors in Mothers of Children with Cancer at El Ranteesy Pediatric Specialized Hospital -Gaza Strip"** This study is submitted for a master's degree in Pediatric Nursing in Al-Quds University.

This research is self-funded. The aim of this study is to identify and assess the effects of stress factors in mothers with a child with cancer. We kindly ask you to answer all the questions of the questionnaire, knowing that it takes about 20 minutes. Your participation is voluntary, There is no correct answer and wrong answer. It is important to note that your participation in the study is very important, and we assure you that your answer will be used for scientific research only with the assurance of complete confidentiality.

With high respect and appreciation

Researcher

Osman Khalid Habib

Email: otman.habeb.ps@gmail.com

Mobile: 0594251977

# Questionnaire

## Part one: the demographic data

| 1.2 Mothers demographic data | | |
|---|---|---|
| No. | Data | Answer |
| 1. | Age: | ---------- years |
| 2. | Marital status | ( ) married ( ) divorced ( ) widow |
| 3. | Education | ( ) tawgehi and less ( ) diploma ( )Bachelor and more |
| 4. | Job | ( ) working employed ( ) not employed |
| 5. | Husband job | ( ) working employed ( ) not employed |
| 6. | Monthly income | ---------- NIS |
| 7. | House | ( ) owned ( ) rented |
| 8. | Governorate | ( ) Gaza( ) middle area( ) Khanyounis( ) North area( )Rafah. |
| 9. | Do you suffer from any Chronic diseases | ( )yes ( ) No<br>Details ---------- |
| 10. | Do you have health insurance | ( )yes ( ) No |
| 11. | What type of health insurance | ( ) governorate ( ) private ( ) others<br>Please specify ---------- |
| 12. | Do you regularly take medical treatment | ( )yes ( ) No |
| 13. | Does the family have children with chronic disease | ( )yes ( ) No<br>Please specify ---------- |
| 14. | Family member | ----------males ----------females |
| 15. | Do you receive aid from external assistance? | ( )yes ( ) No |
| 2.2 child's demographic data | | |
| 16. | Sex | ( )male ( ) female |
| 17. | Age | ---------- years |
| 18. | Diagnosis | ( ) Leukemia ( ) brain tumor( ) rhabdomyosarcoma<br>( ) lymphoma( ) bone cancer( ) retinoblastoma<br>( ) neuroblastoma( ) nephroblastom ( ) others |
| 19. | Diagnosis date | ---------- |
| 20. | Hospital admission date | ---------- |
| 21. | Treatment beginning date | ---------- |
| 22. | Treatment Pattern | ( )Radiotherapy ( ) Chemotherapy ( )Surgical |
| 23. | Does the child have any chronic disease | ( )yes ( ) No<br>Details ---------- |
| 24. | Has a family member been diagnosis with cancer | ( )yes ( ) No<br>Details ---------- |
| 25. | Place of treatment "you can choose more than one answer" | ( )Gaza ( ) 48 territory ( )west bank ( )Abroad |

Part two : stressors factors on the mothers

| No. | The 1st factor: Physical Stressors | SA | A | N | DA | SDA |
|---|---|---|---|---|---|---|
| 1. | I feel lazy most of the time | | | | | |
| 2. | I feel tiered after any activity | | | | | |
| 3. | I suffer from insomnia and sleeping difficulty | | | | | |
| 4. | I feel shortness of breath for no apparent reason | | | | | |
| 5. | Increase of heart beats | | | | | |
| 6. | I suffer from headaches for no apparent reason | | | | | |
| 7. | I feel pain in my joints for no apparent reason | | | | | |
| 8. | I have anorexia | | | | | |
| 9. | I suffer from digestive disorder | | | | | |
| 10. | I feel pain in my stomach most of the time | | | | | |
| 11. | I have bowel disorder that cause constipation | | | | | |
| 12. | I have bowel disorder that cause diarrhea | | | | | |
| 13. | I have problem while urination | | | | | |
| | The 2nd factor: Psychological Stressors | | | | | |
| 1. | I do not feel any pleasure in my life | | | | | |
| 2. | I feel frustrated and unwilling to life | | | | | |
| 3. | I feel sad for simple reason | | | | | |
| 4. | I feel that all what I do for my child is lost effort | | | | | |
| 5. | I am worried about the future of my child | | | | | |
| 6. | It is hard to remember things ever if they are simple | | | | | |
| 7. | I am concerned about the multiplicity of instruction that I give to my child | | | | | |
| 8. | I think having a child with cancer in the family is a big disaster for her. | | | | | |
| 9. | I think it is pointless to try to teach my child like other children | | | | | |
| 10. | I cannot control my nerves for simple reason | | | | | |
| | The 3rd factor: Social Stressors | | | | | |
| 1. | I cannot visit my relatives whenever I want | | | | | |
| 2. | It offends me to get people away from our family because of the case of my child | | | | | |
| 3. | I completely do all the care and follow up requirement for my child | | | | | |
| 4. | My child's care negatively effects the rest of my family | | | | | |
| 5. | A family member helps me with my child | | | | | |
| 6. | I avoid talking about the case of my child | | | | | |
| 7. | I sometimes feel embarrassed because of my child | | | | | |
| 8. | I feel that my friends have abandoned because of my child | | | | | |
| 9. | I think my son will be a permanent problem for the family | | | | | |
| | The 4th factor: Stressors related to Medical and Nursing Care | | | | | |
| 1. | I feel comfortable with a certain number of the medical and nursing staff | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2. | I would like to deal with medical and nursing stuff under training | | | | | |
| 3. | The psychological and cognitive requirement are very important for me and my child | | | | | |
| 4. | I trust the medical and nursing staff who are well experience | | | | | |
| 5. | The explanation of the disease and its development makes me able to deal with in | | | | | |
| 6. | The attention of the medical and nursing staff in my child case makes me hopeful | | | | | |
| 7. | I prefer to complete the rest of the treatment at home | | | | | |
| 8. | In general, I feel comfortable to deal with the staff | | | | | |
| 9. | I feel safe in the hospital | | | | | |
| 10. | I am worried about the many nightly stays inside the hospital | | | | | |
| | The 5th factor: Financial Stressors | | | | | |
| 1. | The burdens of caring for my child outweigh our financial possibilities | | | | | |
| 2. | I have given up an many needed things because of my child's needs | | | | | |
| 3. | The requirements of my child's care are many and exhausting | | | | | |
| 4. | It is difficult for a family whose child is in cancer to plan for the future | | | | | |
| 5. | We have the financial ability to provide The requirements of our child | | | | | |
| 6. | It pains me that we do not have the expense of traveling abroad in case we need to travel | | | | | |
| 7. | It is difficult for us to pay for the medical treatment outside the hospital | | | | | |
| 8. | Others provide financial support to us | | | | | |
| | The 6th factor: Stressors related to knowledge about the disease and its treatment | | | | | |
| 1. | I have the prior knowledge about the disease and its treatment | | | | | |
| 2. | I thought that cancer effects adults only | | | | | |
| 3. | I tried to find out about cancer | | | | | |
| 4. | We told the doctors about the diagnosis clearly | | | | | |
| 5. | The medical staff explained the stage of the disease | | | | | |
| 6. | Medical staff explained the treatment plan | | | | | |
| 7. | I had a belief that recovery from cancer is very difficult | | | | | |
| 8. | The diagnosis of the disease was can firmed after doing all needed tests and samples | | | | | |
| 9. | All the complication that my child may have were explained to me | | | | | |

## Annex (5) Questionnaire (Arabic)

عزيزتي المشاركة

السلام عليكم ورحمة الله وبركاته:

أنا الباحث /**عثمان خالد حبيب** يسعدني جدا مشاركتك في هذا البحث العلمي بعنوان:

**" العوامل المجهدة لدي أمهات الأطفال المصابين بالسرطان في مستشفى الرنتيسي التخصصي للأطفال ـ قطاع غزة"**

**Stressful Factors in Mothers of Children with Cancer at El Ranteesy Pediatric Specialized Hospital -Gaza Strip**

هذا البحث متطلب من متطلبات الدراسة لنيل درجة الماجستير في تمريض الأطفال من كلية المهن الصحية في جامعة القدس – أبو ديس، وهذا البحث ممول ذاتيا حيث تهدف هذه الدراسة علي التعرف وتقييم آثار العوامل المجهدة التي تؤثر على الأمهات اللواتي لديهن طفل مصاب بالسرطان في مستشفى الرنتيسي التخصصي للأطفال . نرجو منكم التكرم بالإجابة عن جميع أسئلة الاستبانة، مع العلم أنها تستغرق حوالي 20 دقيقة. مشاركتكم طوعية ويمكنكم عدم الإجابة على بعض الأسئلة، علماً بأنه لا توجد إجابات خاطئة أو صحيحة. ومن المهم أن نشير إلى أن مشاركتكم في الدراسة تعتبر بالغة الأهمية، ونؤكد لكم أن إجابتكم ستستخدم لأغراض البحث العلمي فقط مع ضمان السرية التامة.

**شكراً لكم على حسن تعاونكم،،،**

**الباحث/ عثمان خالد حبيب**

Otman.habeb.ps@gmail.com

**0594251977**

# الاستبانة

## 1.الجزء الأول: الخصائص الديموغرافية

| 1.1 الخصائص الديموغرافية للام: | | |
|---|---|---|
| **الرقم** | **المعلومات** | **الاجابة** |
| .1 | العمر | ..... سنة |
| .2 | الحالة الاجتماعية | ( ) متزوجة ( ) مطلقة ( ) ارمله |
| .3 | مستوى التعليم | ( ) ثانويه عامه واقل ( ) بكالوريوس واكثر ( ) دبلوم |
| .4 | المهنة | ( ) تعمل ( ) لا تعمل |
| .5 | مهنة الزوج | ( ) يعمل ( ) لا يعمل |
| .6 | دخل الاسرة تقريبي | ..... شيكل |
| .7 | المنزل | ( ) ملك ( ) ايجار |
| .8 | المحافظة | ( ) الشمال ( ) غزة ( ) الوسطى ( ) خانيونس ( ) رفح |
| .9 | هل تعاني من امراض مزمنة | ( ) نعم ( ) لا التفاصيل ..... |
| .10 | هل لديك تأمين صحي | ( ) نعم ( ) لا |
| .11 | ما هو نوع التأمين | ( ) حكومي ( ) شركات ( ) أخرى حدد..... |
| .12 | هل تأخذين علاجات بشكل دوري(دائم) | ( ) نعم ( ) لا |
| .13 | هل يوجد بالأسرة اطفال لديهم امراض مزمنة | ( ) نعم ( ) لا حدد..... |
| .14 | كم عدد افراد الاسرة | ذكور..... اناث..... |
| .15 | هل تتلقون مساعدات من جهة معينة | ( ) نعم ( ) لا |
| **1.2 الخصائص الديموغرافية للطفل** | | |
| .16 | الجنس | ( ) ذكر ( ) انثي |
| .17 | العمر | ..... سنة |
| .18 | التشخيص | ( ) Leukemia ( ) brain tumor( ) rhabdomyosarcoma ( ) lymphoma ( ) bone cancer( ) retinoblastoma ( ) neuroblastoma ( ) nephroblastom( ) others |
| .19 | تاريخ تشخيص المرض | ..... |
| .20 | تاريخ دخول المستشفى | ..... |
| .21 | تاريخ بداية العلاج | ..... |
| .22 | نمط العلاج (ممكن تحديد اكثر من نمط) | ( )علاج بالأشعة ( )علاج كيميائي ( )عمليات جراحية |
| .23 | هل الطفل يعاني من امراض اخري مزمنة | ( ) نعم ( ) لا التفاصيل ..... |
| .24 | هل أصيب أحد أفراد الأسرة بالسرطان | ( ) نعم ( ) لا حدد..... |
| .25 | مكان العلاج(امكانية تحديد اكثر من مكان) | ( ) غزة ( ) الضفة الغربية ( ) داخل الخط الاخضر ( ) خارج البلاد |

**2.الجزء الثاني : العوامل الضاغطة على الأم**

| | العامل الأول: اضطرابات جسدية وعضوية | أوافق بشدة | أوافق | غير متأكد | غير موافق | غير موافق بشدة |
|---|---|---|---|---|---|---|
| | أشعر بالكسل معظم الوقت. | | | | | |
| | أشعر بالتعب عقب أي نشاط. | | | | | |
| | أعاني من الأرق وصعوبة النوم. | | | | | |
| | أشعر بضيق في التنفس دون سبب واضح. | | | | | |
| | تنتابني لحظات في زيادة بضربات القلب. | | | | | |
| | أعاني من الصداع دون سبب واضح. | | | | | |
| | أشعر بالألم في مفاصلي دون سبب واضح. | | | | | |
| | أشعر بفقدان الشهية. | | | | | |
| | أعاني من اضطرابات الهضم. | | | | | |
| | أعاني من ألم بمعدتي معظم الوقت. | | | | | |
| | أعاني من اضطرابات في الأمعاء تسبب لي الإمساك. | | | | | |
| | أعاني من اضطرابات في الأمعاء تسبب لي الاسهال. | | | | | |
| | اعانى من مشاكل اثناء التبول. | | | | | |
| | **العامل الثاني: العوامل النفسية** | | | | | |
| | لا أشعر بأي متعة في حياتي. | | | | | |
| | أشعر بالإحباط وعدم الرغبة في الحياة. | | | | | |
| | أحزن لأبسط الأسباب. | | | | | |
| | أشعر أن كل ما افعله مع ابني/ابنتي يعد جهداً ضائعاً. | | | | | |
| | اشعر بالقلق حينما افكر في مصير ابني/ابنتي في المنظور القريب. | | | | | |
| | يصعب علي تذكر الأشياء ولو بسيطة معظم الوقت. | | | | | |
| | تقلقني كثرة التعليمات والتوجيهات التي يتعين إعطاؤها لابني/لابنتي. | | | | | |
| | اعتقد أن وجود طفل مريض بالسرطان في الأسرة يعد كارثة كبيرة لها. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | اعتقد أنه لا جدوى من محاولة تعليم ابني/ابنتي كباقي الاطفال في نفس العمر. | | | | | |
| | لا أستطيع التحكم في أعصابي لأبسط الأسباب. | | | | | |
| **العامل الثالث : العلاقات الأسرية والاجتماعية.** | | | | | | |
| | لا يمكنني زيارة اقاربي وقتما أشاء. | | | | | |
| | يؤلمني إحجاب الناس عن الزواج من أسرتنا بسبب ابننا/ابنتنا. | | | | | |
| | اقوم بجميع متطلبات الرعاية والمتابعات العلاجية لابني/لابنتي. | | | | | |
| | عنايتي بطفلي تؤثر سلبا علي باقي افراد الاسرة. | | | | | |
| | يقوم احد افراد العائلة بمساعدتي بالعناية والرعاية لابني/لابنتي. | | | | | |
| | أتجنب الحديث عن حالة ابني /ابنتي مع الاخرين | | | | | |
| | أشعر أحياناً بالحرج بسبب ابني/ابنتي. | | | | | |
| | اشعر ان اصدقائي قد تخلوا عني بسبب ابني/ابنتي. | | | | | |
| | أعتقد أن أبني سوف يمثل مشكلة دائمة للأسرة. | | | | | |
| **العامل الرابع: القلق من العناية الطبية والتمريضية** | | | | | | |
| | ارتاح في التعامل مع عدد معين من الطاقم الطبي والتمريضي. | | | | | |
| | ارغب في التعامل مع طواقم طبية وتمريضية تحت التدريب. | | | | | |
| | المتطلبات النفسية والمعرفية مهمة جدا لي ولطفلي. | | | | | |
| | اثق جدا بالطواقم الطبية والتمريضية من اصحاب الخبرة. | | | | | |
| | شرح مراحل المرض وتطوره يجعلني اكثر استعداد للتعامل معه. | | | | | |
| | اهتمام الطواقم الطبية والتمريضية بحالة ابني /بنتي تشعرني بالأمل. | | | | | |
| | افضل ان اكمل باقي العلاج بالبيت. | | | | | |

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| | ارتاح بالتعامل مع الطواقم الطبية والتمريضية عموما. | | | | | |
| | اشعر بالأمان بوجودي بالمستشفى. | | | | | |
| | اشعر بالقلق من كثره المبيت داخل المستشفى. | | | | | |
| **العامل الخامس: الأعباء المادية** | | | | | | |
| | متطلبات رعاية طفلي تفوق كثيراً قدرتنا المادية. | | | | | |
| | تخليت عن توفير الكثير من الأشياء التي طالما تمنيتها بسبب احتياجات ابني/ابنتي | | | | | |
| | متطلبات رعاية ابني/ابنتي كثيرة ومرهقة بالنسبة لنا. | | | | | |
| | يصعب على أسرة الطفل المصاب بالسرطان وضع خطط للمستقبل. | | | | | |
| | لدينا القدرة المادية لتوفير متطلباتنا ومتطلبات ابننا/ابنتنا المصاب. | | | | | |
| | يؤلمني اننا لا نملك نفقات السفر للخارج اذا احتجنا للسفر. | | | | | |
| | يصعب علينا دفع نفقات العلاج والاستشارات الطبية خارج المستشفى. | | | | | |
| | تقوم جهات اخري بتقديم الدعم المادي لنا. | | | | | |
| **العامل السادس: معرفة الام بطبيعة المرض وعلاجه** | | | | | | |
| | لدي معلومات مسبقة عن مرض السرطان. | | | | | |
| | كنت اعتقد ان مرض السرطان يصيب الكبار فقط. | | | | | |
| | حاولت البحث والتعرف عن طبيعة هذا المرض. | | | | | |
| | ابلغنا الطبيب المختص بالتشخيص بشكل واضح. | | | | | |
| | تم شرح لي مراحل المرض وتطوره من قبل الطواقم الطبية. | | | | | |
| | شرح الطاقم الطبي لنا الخطة العلاجية. | | | | | |
| | كان لدي اعتقاد بان الشفاء من مرض السرطان صعب جدا. | | | | | |
| | تم تأكيد تشخيص المرض بعد اجراء جميع الفحوصات والعينات الازمة. | | | | | |
| | تم شرح لي جميع المضاعفات التي قد يمر بها طفلي. | | | | | |

**عنوان الدراسة: العوامل المجهدة لدي أمهات الأطفال المصابين بالسرطان في مستشفى الرنتيسي التخصصي للأطفال – قطاع غزة**

**إعداد: عثمان خالد حبيب**

**إشراف: د. يوسف محمود عوض**

**ملخص الدراسة:**

**المقدمة:**

يتزايد السرطان بين الأطفال في جميع أنحاء العالم ، ويتزايد عبء السرطان في جميع أنحاء العالم كل عام، حيث يتم تشخيص أكثر من 200000 طفل بالسرطان وهو مرض يمس عددًا لا يحصى من الأسر والمجتمعات ، وغالباً ما تلعب الأمهات دورًا مهمًا في توفير الرعاية لأطفالهن المرضى. يعتمد نجاح أو فشل الآباء على تكيفهم مع الأزمات المتعلقة بالسرطان، هو أحد أكثر العوامل المؤثرة في التنبؤ بالضبط الإيجابي لإجهاد الطفل والأسرة. الهدف من الدراسة هو تقييم تأثير البيانات الاجتماعية والديموغرافية وتحديد العوامل المجهدة لدي أمهات الأطفال المصابين بالسرطان في قطاع غزة.

**المنهجية:**

اتبعت الدراسة المنهج الوصفي فكانت العينة المستهدفة جميع الأمهات اللائي لديهن أطفال مصابون بمرض السرطان من كلا الجنسين من مختلف الفئات العمرية. وكانت العينة عبارة عن 110 من الأمهات اللائي تم اختيارهن بشكل ملائم ، والتي أجريت في مستشفى الرنتيسي لطب الأطفال المتخصص في طب الأطفال في قطاع غزة.

**النتائج:**

أظهرت نتائج التحليل ثنائي المتغير وجود علاقة ذات دلالة إحصائية إيجابية بين الضغوطات الأمهات وجميع المجال (P-value=0.000). كما أظهرت نتائج أمهات الأطفال المصابون بالسرطان أن متوسط النسبة المئوية لمستوي الإجهاد أعلى بالرعاية الطبية والتمريضية بنسبة 71.48٪ من المجيبين على الدراسة وأدنى مستوي إجهاد للضغوط الجسدية بنسبة 56.74٪. كان هناك فروق ذات دلالة إحصائية بين تشخيص الطفل والضغوط الجسدية ، والضغوط النفسية والضغوط المالية (P-value = 0.010 ، 0.050 ، 0.008) على التوالي. كان هناك فروق ذات دلالة إحصائية في الضغوط النفسية ( P-value=0.036) والضغوط المرتبطة بمجال الرعاية الطبية والتمريضية ( P-value=0.033) والتي لها علاقة إحصائية بين الضغوطات لدي الأمهات

والأمراض المزمنة. علاوة على ذلك ، كان هناك فروق ذات دلالة إحصائية بين وظيفة الأم والضغوط الاجتماعية (P-value=0.019).

**الخلاصة:**

لخصت الدراسة إلى أن الأمهات اللاتي لديهن أطفال مصابون بالسرطان بأنهن مصابات بمستوى عالٍ من الضغوطات المرتبطة بالرعاية الطبية والتمريضية ومصابات باقل مستوي للضغوطات البدنية.

**التوصيات:**

1. يجب على هيئة الأورام ترتيب البرامج الخاصة بأطفال السرطان وأمهاتهم والتي يمكن أن توفر لهم معلومات كافية ، وتحسين مهارات الطبيب والممرض فيما يتعلق بإدارة السرطان والآثار الجانبية لإدارة علاجه.
2. البرامج التعليمية للممرضين بأن يكون على دراية بضغوط الأم وتجنبها.
3. تشجيع الأمهات على التعامل بفاعلية مع مرض أطفالهن لزيادة مستوى التكيف والتأقلم.
4. يجب أن يشارك الممرضين في تزويد الأمهات اللاتي لديهن أطفال مصابين بالسرطان من خلال النشرات حول السرطان وإدارة الآثار الجانبية لطرائق علاجه ولتخفيف الضغوطات المرتبطة بالآثار الجانبية لعلاج السرطان.
5. تقديم خدمات الدعم النفسي في وزارة الصحة بجانب العلاج الطبي.
6. المشاركة الفعالة من أفراد الأسرة والأب في رعاية الطفل.
7. تحسين وتسهيل التواصل والتعاون ، من الضروري لمزود الرعاية الصحية تحديدًا اسهل وابسط المصطلحات المستخدمة للاتصال.
8. إنشاء عيادة استشارية خاصة لأمهات الأطفال المصابين بالسرطان ، لتعزيز الرعاية ، وتخفيف الضغوطات ، وبالتالي تحسين جودة الحياة.
9. مزيد من الدراسة لتحديد الاحتياجات التدريبية الفعالة لممرضين المتخصصين في الأورام.
10. توفير الرعاية التلطيفية من قبل مقدم الرعاية الصحية لتحسين جودة الحياة.

**الكلمات المفتاحية:** الأمهات ، الإجهاد ، العوامل المجهدة ، سرطان الطفولة ، قطاع غزة.