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Impact of Sociological, Psychological and Financial Stress upon Families of Children with Cancer

Abdulmutalib Abdulla Mohammed^{1*}, Afkar Fadhil Kareem², Mahfood Falih Hassan¹, Utoor Talib Jasim¹

¹Branch of Basic Sciences, College of Nursing, University of Basrah

²Branch of Community Health, College of Nursing, University of Basrah

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Abstract: The diagnosis of pediatric cancer is a traumatic event and a major source of psychological stress for parents. *Objective*: The aim of our study was to determine the impact of sociodemographic, psychological & financial factors among parents of children diagnosed with cancer. Methods: This study was a quantitative, randomized, cross-sectional study (30) participants were randomly selected from the population of parents whose children have cancer and treated in the department of medical oncology at the child's Hospital in Basrah governorate. The study began on September 2023. Participants were given a questionnaire form to complete at the hospital. Results: showed that mothers, brothers, or relatives were the most likely person to accompany the sick child, while fathers were less likely due to their work and living concerns. 90% of families had to adapt psychologically to the presence of the disease in their child, and this did not affect relations with society or between members of the same family. Financial factor was probably extremely harmful causing stress in families, especially those with low incomes, followed by long periods of hospitalization and the confining of treatments to painkiller. This led to the loss of most sick children to chances of completing their studies. Conclusions: Families of children with childhood cancer face substantial challenges. The present study explored the financial of the family and the impact of childhood cancer on these families. In addition, the domains of both tools were significantly associated with some demographic characteristics of the child and his parents. Recommendation: Based on these findings, increased psychosocial and emotional resources for patients and their families have to be facilitated and improved. Further research studies in this topic to investigate barriers and facilitators for family care.

Keywords: Sociological, Psychological, Financial Stress, Families, Children with Cancer.

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INTRODUCTION

Cancer is a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths. According to WHO in adult the most common cancers are breast, lung, colon and rectum and prostate cancers (WHO, 2022). And in children each year, an estimated 400 000 children and adolescents of 0-19 years old develop cancer. The most common types of childhood cancers include leukemia, brain cancers, lymphomas and solid tumors, such as neuroblastoma and Wilms tumors (WHO, 2021).

Cancer is a condition where some of the cells of the body begin to divide uncontrollably and spread into surrounding parts of the body, destroying healthy neighboring tissues. Normally, body cells divide to form new cells to replace old or damaged cells as a natural process. In cancer, new cells begin to form rapidly even when they are not needed. They form growths called tumors. As these new cells continue to divide without stopping, some of these cancer cells break off and through the blood (or lymph) travel to other parts of the body and form new tumors. (Fadaka *et al.*, 2017)

The earliest cancer stage gives no sign or symptoms by which we can indicate the disease. Moreover, the symptoms or signs are shown in harm condition. Some common symptoms that may occur with cancer are persistent cough or blood-tinged saliva, a change in bowel habits, blood in the stool, unexplained Anemia, breast lump or breast discharge, lumps in the testicles, change in urination, persistent back pain, unexplained weight loss, stomach pain and nausea, and bone pain (Bleyer, 2009). The late symptoms are depending on cancer type, location or where the cancer cells have spread, which include change in bowel or bladder habits, obvious change in the size, color, shape or thickness of a wart or mole, Indigestion or difficulty in swallowing, a sore throat that does not heal, thickening or lump in the breast, testicles, and hoarseness.

The types of cancer that are common in children are not the same as those most often found in adults. According to WHO statistics published in 2021 leukemia was the most common type of cancer in children under 19 years of age 40 percent of all cancers in Caucasian children were leukemia (Law *et al.*, 2019). The most common types of cancer in childhood are acute lymphocytic leukemia, tumors of the central nervous system, Neuroblastoma, Lymphoma, Hodgkin's and non-Hodgkin's lymphoma, Wilma's tumor and Bone cancer, which result from metastases from other cancers (Smith *et.al.*, 2014).

There are many causes for occurring cancer in different body parts, like mainly 25-30% deaths are due to tobacco consumption, 10% of deaths are due to poor diet, obesity, lack of physical activity excessive drinking of alcohol or other facts include certain exposure to ionizing radiation, environmental pollutants, and infection (Tutuncuoglu & Krogan, 2019). About 15% of cancer in the world is due to some infections like hepatitis B, hepatitis C, human papilloma virus infection, helicobacter pylori, immunodeficiency virus (HIV), and Epstein-Barr virus (WHO,2014). These factors are at least partly responsible for changing the genes. Inherited genetic defects from patient's parents are also responsible for 5-10% of cancer. Cancer is caused by the interaction between genetic factors and three categories of agents which we consume externally including (Das et al., 2020) Which enables it to obtain a huge amount of information when searching for any topic using search sites, whether at home or office (10). Nursing is the sum of services given to individuals and their families to help them maintain their natural state or help them to relieve their organic and psychological pain (Luaay abdulwahid shihab, et al., 2018)

Physical Carcinogens: Ionizing radiation such as radon, ultraviolet rays from sunlight, uranium, radiation from alpha, gamma, beta, and X-ray-emitting sources.

Chemical Carcinogens: Compounds like nnitrosamines, asbestos, cadmium, benzene, vinyl chloride, nickel,

Biological Carcinogens: Infections from certain bacteria, viruses, or parasites and Pathogens like human papillomavirus, or Epstein-Barr virus, hepatitis B and C.

The aims of this study were exploring the stress levels of parents caring for a child with cancer in order to identify the psychological needs of parents in this environment. Exploring how mothers and fathers stress levels might differ. Understanding how financial stress affects family cohesion as a whole. Also Examining the relationship between cancer stress and financial stress present within families coping with a cancer diagnosis and treatment, and finally, exploring how family cohesion and adaptability with cancer disease of her children.

METHODOLOGY

Design of the Study

A descriptive cross-sectional study was conducted to assess the nature of the life of caring families for a child with cancer in Basra Specialized Hospital for Cancer Diseases, and this study began in September 2023 to April 2024.

Sample of Study

The current study included a group of families in Basra governorate from separate areas in the governorate, which included 30 families with varying degrees of kinship with the patient from the father, mother, brother, sister, grandmother, grandfather, and aunt or uncle.

Project Instrument

A project questionnaire tool was prepared according to scientific sources related to the subject of the research and approved by specialized professors. The questionnaire was included two parts. The first part contained (12) questions, relates to the variables (the age of the accompanying patient, the degree of kinship, the patient's age, gender, and the economic status of the families). The second part contained (34) question to assess the nature of the life of the caring families of a child with cancer. The questions were separated into positive and negative questions. The positive questions about them received a full degree (3), while the negative questions was received a lower degree (1). All participants answered two parts of the questions. Through the direct interview, we collected the result according to the correct model answer.

METHODS

The questionnaire was distributed to accompanying patients inside the hospital. An interview was conducted with each of them to collect accurate data on the subject. The results of questionnaire were collected and tabulated in excel tables and statistically analyzed in the SPSS program version 26 to extract the significant values of the study samples and the accuracy rate is 0.05.

RESULTS

The studying and understanding of psychological, physical, and social effects in the families of children with cancer is considered as effective empowerment of family members to address the obstacles and pressures they face. The ability of parents to find adaptive strategies during a child's therapy is important to their mental and physical health as well as their children's well-being and the long-term adaptation of disease.

Rating and Scoring of the Study of Questionnaire

A three-point Likert scale was used statistically to evaluate the questionnaire as harmful, healthy, or acceptable to the study samples, families and their children with cancer. Thus, the harmful factors are in the range (1-1.66), the acceptable factors in the range (1.67-2.33), and the health factors in the range (2.34-3) as shown in table (1).

υ	nel. Three points Likert Scale for questionnane evaluation									
	Likert Scale	Interval	Difference	Evaluation						
	1	1 – 1.66	0.66	Harmful						
	2	1.67 - 2.33	0.66	Acceptable						
	3	2.34 - 3	0.66	Healthy						

Table1: Three points Likert Scale for questionnaire evaluation

Sample Characteristics

Table (2) shows that of the 30 families involved, 24(80%) patient facilities were mothers and 6(20%) relatives, the almost of whom was 13(43.3%)between the ages of 30-39, and the sickest children were the same number as 15(50%) among males and females,8(26.7\%) were aged 1-6 years and 10(33.3%)were aged 7-11 years and 12(40%) respectively were 12-16 years old. The weight of must sick children (50%) ranged from 20-30 kg, while 5(16.7%) were with high weight 60-70 kg. According to the educational level of the, 18(60%) received a secondary school, 5(16.7%)received high school, 4(13.3%) an institute, and 3(10%)were college graduates. The economic status of the families was 13(43.3%) families with average income, 9(30%) families with low incomes and 8(26.7%) families with good incomes. Of the 30 families, 14(46.7%) had a history of cancer versus, 16(53.3%) had no history of disease. Finally, the percentage was similar to that of the mother or father, 26(86.7%) of the mothers were in good health and 27(90%) of the fathers were in good health.

Questionnaire Item Analysis

Each section of the questionnaire items was evaluated to determine their strength and moral impact on psychological and emotional stress of families and their sick children. As shown in table (3), the analysis was conducted on all the collected data to determine whether they were harmful, healthy or acceptable.

Descriptive statistics of Demographic Variables							
Demographic Variables	Variables Classes	F	Percent				
Patient's relatives	Mother	24	80.0				
	Relatives	6	20.0				
	Total	30	100 %				
Age of kin	20 - 29	8	26.7				
	30 - 39	13	43.3				
	40 - 49	4	13.3				
	More than 50	5	16.7				
	Total	30	100 %				
Patient's age	1 - 6	8	26.7				
_	7 – 11	10	33.3				
	12 – 16	12	40.0				
	Total	30	100 %				
Patient's sex	Male	15	50.0				
	Female	15	50.0				
	Total	30	100.0				
Patient's weight	20 - 30	15	50.0				
	30 - 40	3	10.0				
	50 - 60	7	23.3				
	60 - 70	5	16.7				
	Total	30	100 %				
Education level	Secondary school	18	60.0				
	High school	5	16.7				
	Institute	4	13.3				
	College	3	10.0				
	Total	30	100 %				

Table 2: Gener	al den	nograp	ohic chara	cteristics	of participar	nt families and the	ir child patients
	-						

Abdulmutalib Abdulla Mohammed, EAS J Nurs Midwifery; Vol-7, Iss-2 (Mar-Apr -2025):	: 21-27

Descriptive statistics of Demographic Variables							
Demographic Variables	Variables Classes	F	Percent				
Address	City center	17	56.7				
	Out center	13	43.3				
	Total	30	100.0				
Economic status	Poor	9	30.0				
	Medium	13	43.3				
	Good	8	26.7				
	Total	30	100.0				
House	Estate	17	56.7				
	Rent	8	26.7				
	Slums	5	16.7				
	Total	30	100.0				
Cancer History in Family	Yes	14	46.7				
	No	16	53.3				
	Total	30	100.0				
health condition of mother	Yes	26	86.7				
	No	4	13.3				
	Total	30	100.0				
health condition of father	Yes	27	90.0				
	No	3	10.0				
	Total	30	100.0				

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Questions.	Sample	Min	Max	Mean	SD	Ass.
	No.			score		12000
1- Do you have the tolerance to see your child undergo some	30	1	3	1.93	0.907	Acceptable
laboratory tests and treatments?						1
2- Do you need help when taking care of your child?	30	1	3	1.87	0.937	Acceptable
3- Can the family deal with the side effects of the disease?	30	1	3	2.67	0.606	Healthy
4- Do you feel the negative psychological impact (extreme	30	1	1	1.00	0.000	Harmful
sadness) on you or your child when the death of another						
patient similar to your child's illness occurs?						
5- Do you feel obsessed with the possibility of your child's	30	1	3	1.23	0.568	Harmful
disease returning after treatment and improvement?						
6- Do you think that your child's illness has a negative impact	30	1	3	2.17	0.834	Acceptable
on the relationship of family members with each other?						
7- Does the family get emotional support from relatives and	30	1	3	2.47	0.819	Acceptable
friends?						
8- Has your child's illness negatively affected the academic	30	1	3	2.63	0.615	Healthy
level of his siblings?						
9- Is there cooperation between spouses to care for their	30	1	3	2.83	0.531	Healthy
child?						
10- Do you spend a long period of time in the hospital?	30	1	3	1.63	0.850	Harmful
11- Does the period of stay in the hospital exceed (a month)?	30	1	3	1.80	0.887	Acceptable
12- Do you suffer from sleep disorders?	30	1	3	1.87	0.937	Acceptable
13- Did you have to take some painkillers after your child	30	1	3	1.97	0.999	Acceptable
became ill?						
14- Is there a psychiatrist in the hospital who follows up on	30	1	3	2.77	0.626	Harmful
the condition of children and their families?						
15- If a psychiatrist is present, is there any benefit from his	30	1	3	1.27	0.691	Harmful
advice to solve some psychological problems?						
16- Does your child have psychological problems?	30	1	3	1.13	0.434	Harmful
17- Do you have the ability to deal with the neurological and	30	1	3	1.53	0.571	Harmful
psychological attacks that happen to your child?						
18- Do you have a relative, friend, or acquaintance who has	30	1	3	1.40	0.814	Harmful
a child who is sick with cancer and has been cured of the						
disease?						

Questions.	Sample	Min	Max	Mean	SD	Ass.
	No.			score	~	
19- Do you think that your child will not survive the disease?	30	1	3	2.10	0.960	Acceptable
20- Is your child a student in school?	30	1	3	2.20	0.997	Acceptable
21- Is he still continuing his studies?	30	1	3	1.50	0.820	Harmful
22- Did his illness affect his academic level?	30	1	3	1.40	0.770	Harmful
23- Is the disease improving now?	30	1	3	2.27	0.740	Acceptable
24- Does the child need the presence of a chaperone with the medical staff during treatment?	30	1	3	2.57	0.774	Healthy
25- Does having a child with cancer affect social communication between the foster family and the rest of society?	30	1	3	1.93	0.828	Acceptable
26- Does the family depend on another source of income or in cooperation with other family members?	30	1	3	1.60	0.932	Harmful
27- Did any of the parents lose their job or work after the disease was diagnosed?	30	1	3	2.33	0.884	Acceptable
28- Are medications sufficiently available within the hospital?	30	1	3	2.50	0.572	Healthy
29- Does the family find any response to the treatments given to the patient or just pain relief?	30	1	3	1.70	0.750	Acceptable
30- Are all laboratory tests available in the hospital?	30	1	3	2.37	0.809	Healthy
31- If some of them are not available, do you have to perform these tests outside the hospital at your own expense?	30	1	3	1.50	0.820	Harmful
32- Does the distance from housing constitute an obstacle to meeting your needs and the needs of your child throughout his stay in the hospital?	30	1	3	1.87	0.937	Acceptable
33- Is appropriate food available for your child in the hospital?	30	1	3	2.03	0.809	Acceptable
34- Do you have to buy lunches from outside the hospital?	30	1	3	1.63	0.928	Harmful

*Harmful=(1-1.66), Acceptable = (1.67 - 2.33), Healthy = (2.34 - 3)

According to the table above, the elements of healthy questions were seven and they have (2.34-3) mean score on three-points Likert scale, this indicates that these factors do not affect stress in families and their children. The questionnaire elements of acceptable stress effect were 15 and have (1.67-2.33) mean score on Likert scale. Finally, the questionnaire elements of harmful stress effect were 12 with mean score of)1-1.66) on Likert scale. The items of the questions in the table above can be summarized and rearranged into a group of factors that differently affecting the state of family stress, table (4).

From this table it is understood that the state of adaptation was present in families and children for most of the questions that pertain to this factor, except in the event of the death of a child in a hospital or an obsession with the fear of a return of the disease after recovery, as well as spending long periods in the hospital. For community and family members, the results were acceptable, as the disease did not change the relationship with them. The economic factor was harmful causing a pressure with psychological stress on most families, especially the poor and middle income ones. The community and moral support factors were available and acceptable to families, and the only exception that put them under psychological stress was the lack of a full recovery in hospital for a child to mentally enhanced other sick children, and that might be because cancer is one of the most difficult chronic disease and its treatments in our hospitals is limited to painkillers only. Educational stimulation is also a harmful psychological effort for children and their families, as most children become bored or leave school due to disease.

Finally, the health factor was the same in terms of both positive and negative effects. While drugs and some medical tests are available, there is a harmful effects in terms of lack of psychiatrists for patients, a psychological reactions occur to the child, the failure to respond to psychiatric treatment or the inability of accompanying person to deal with patient emotion. Also, if they have to buy drugs or do some tests out of hospital which increases the money burden on the family.

Abdulmutalib Abdulla Mohammed, EAS J Nurs Midwifery; Vol-7, Iss-2 (Mar-Apr -2025): 21-27

Table 4. The evaluation of effective factors of questionnance							
Factors	Question No.	Evaluation					
Factor 1: coping with disease conditions	1,2,3,8,9,11,12,13,16,17,23,27,32,33	Acceptable					
	4,5,10	Harmful					
Factor 2: Changing relationships with community or family members	6,25	Acceptable					
Factor 3: Economic support	15,24, 26,28,34	Harmful					
Factor 4: Social and moral support	7,19,20,23,25,29	Acceptable					
	18	Harmful					
Factor 5: Study effect	21,22	Harmful					
Factor 6: Health effect	24,28,30	Healthy					
	14,15,16,17,31	Harmful					

In general, for the family lifestyle of the sick children under the present study, the table (5) shows the highest percentage of families (90%) were given an acceptable assessment of how to deal and adapt to the stressful conditions due to their children ill, while (3%) of the families had a healthy assessment that was not affected by the psychological condition and stresses. On other hand, (7%) of the families were under a harmful and difficult psychological condition in their lifestyle, being families with a low and limited income.

 Table 5: Levels of Overall assessment about Lifestyle of Patient families

Mean Score	Frequency	Percent	Assessment
0 - 0.33	2	7 %	Harmful
0.34 - 0.67	27	90 %	Acceptable
0.68 - 1	1	3 %	Healthy
Total	30	100 %	

DISCUSSION

Koumarianou *et al.*, (2021) stated that cognitive behavioral therapy is beneficial for parents as it improves measures to adapt to the disease, and that psychosocial interventions will be useful and valuable for parents and siblings of children with cancer. It also has an indirect effect on the psychological adaptation of children. In their study, they pointed to the need for increased resources to address the distress and stress of families facing childhood cancer.

Parents of children are shocked when their child is diagnosed with cancer and may suffer significant psychological and financial distress, but for those parents who are flexible and resilient, they gradually adjust to the trauma and achieve psychological stability and good family performance (Kearney et al., 2015). Nevertheless, diagnosing childhood cancer can be particularly stressful for parents, causing high levels of distress, disrupting treatment for sick child cancer, and weakening family support for the sick child (Kazak&Noll, 2015). Parents of children are also at greater risk of poor adjustment outcomes than their child diagnosed with the disease (Pai et al., 2007). Several studies have shown that the outcomes of parent-child adaptation are closely related through child-parent interactions such as adaptation, disease, and sociocultural norms in chronic disease (Thompson et.al., 1993). Psychosocial care of the family is considered essential in the treatment of pediatric cancers since parental care has great potential to help children (Mullins et al., 2016). Psychosocial aspects are of great importance and must always be integrated into the routine care of cancer patients and their families in

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order to provide them with a good life (Gerhardt et al., 2015; Wiener et al., 2015). Cognitive psychotherapy, supportive psychotherapy, psycho education programmes and family therapy are considered as standard care standards and have been shown to improve the psychological adaptation of parents of children with cancer, a process known as post-traumatic development (Wilson et al., 2016). Despite therapeutic interventions pediatric cancer, psychosocial interventions for continued to be hampered by medical care priorities, high financial costs and the lack of adequate health-care workers (Selove et al., 2012; Weaver et al., 2016).

CONCLUSIONS

There is a state of adaptation to the conditions of the disease for most families caring for a child with cancer. The child's cancer did not affect the relations with community or between family members. Most families were obsessed with the fear that the child would return to disease after recovery and from long periods of hospitalization. Existence of physical, financial harm and psychological stress on middle-income or poor families. There are little community and moral support for families. The academic factor was negatively affected, as most of the children had their studies affected or stopped due to disease. Damage in the health aspect due to the occurrence of psychological emotions of the child and there are no psychologists provided to follow up on this case. A negative health impact on families due to the unavailability of some medical tests and treatments, so they have to do it outside the hospital.

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