Pro Index | Journal of Science in Medicine and Life
Volume: 3 Issue: 2 Year: 2025
ISSN: 2992-9202 | http://journals.proindex.uz

Psychosocial Impact Upon Families of Children with Leukemia at Pediatric Teaching Hospital in Baghdad City

Ahmed Abdulkadhim Mohammed
MsN, Al- Hadi University, Nursing Department, Iraq
ahmed.abdulkadhim@huc.edu.iq

Abstract: **Background:** Cancer is a term referring to a disease in which cells divide abnormally without control and can attack surrounding tissues. The incidence of childhood cancer in the world is about 2-4%. Each year, there are 11,000 cases of childhood cancer and 10% of them are fatal. Cancer care can interfere with parents' quality of life as informal primary caregivers.

Objective: The aim of this study is to assess the psychosocial impact on the families of children with leukemia and to provide psychological support to children during the treatment period.

Study methodology: A descriptive study was conducted by applying a quantitative design in Baghdad city hospitals. This study was Conducted at 3rd December 2024 to the 15th February 2025. and a non-probability sample (purposeful sample) was selected from (50) families, all of the sample was collected from Children's Central Hospital for Hematology and Medicine City. A questionnaire was developed for the purpose of the study and it included two parts consisting of the first part of demographic data, and it consists of 13 questions related to age, gender, etc., and the second part is the effect of the leukemia child on their families and consists of (22) questions. The total of the questions included (35) questions.

Results: The results of the current study indicate that there is a correlation between the psychosocial impact with demographic variables (parents' age, child's age, child's sequence in the family, number of brothers and sisters, parents' relationship with each other), where the statistical significance of the P-value ranged between (0.00 and 0.05), which Indicates that a child with leukemia has a moderate to high impact on the family.

Conclusions: The study concluded that there is a psychosocial impact on the family, where the P value of the association was less than 0.005. It turns out that the psychosocial pressure on the family is high because they do not go out, meet their friends and relatives, or take a walk because of their child's illness and care.

Recommendations: Providing psychological and social programs for parents of children with leukemia to reduce stress in the family and activate the role of psychiatric nurses and social workers in children's hospitals. Provide more age-appropriate information in a range of formats, as well as information in different languages where appropriate.

Key points: *Psychosocial, Leukemic' Children, Families.*

Introduction

Cancers are still the second leading cause of death among children aged between 5 and 14 years old (Khazaei S, et al. 2017, Moussavi F, et al. 2014). Meanwhile, a common cancer in children is acute lymphoblastic leukemia and the cancer detection in childhood is a life changing event occurrence not only for the child but also for their families (Ward E, et al. 2014). In recent years the survival

rate of children with cancer has increased; unfortunately, this increased rate of survival is followed by high medical costs, long hospitalization and psychological problems in the patient and their family (Smith MA, et al. 2010).

Today most of the medical care is shifting to the home which puts a lot of burden on family members, especially parents; accordingly, parental caregiver burden is an important priority in children's oncology research (Wells DK, et al. 2002). Parents play an important role in the treatment process of their child such as the relationship with the medical team, and management of medication in their children (McKenna K, et al. 2010).

Additionally, the presence of a child with cancer may lead to emotional instability, uncertainty and tension among family members (Papastavrou A, et al. 2012). Syse et al. indicated that parents of a child with cancer may lose their job because of the length of treatment and the burden of responsibility.

Caregiver burden is the stress or strain which is perceived by caregivers due to the problems and challenges of caregiving; this is one of the most important predictors for negative outcomes of the care situation– for the caregivers themselves as well as for the patients; caregiver burden is a multidimensional response to stressors resulting from caregiving (Buhse M. et al. 2008).

The efforts can focus on problem management or emotional regulation. High caregiver burden often comes along with dysfunctional strategies which means activities which do not solve the problem, but worsen it (Cooper C, et al. 2008).

Caring is a serious challenge for caregivers, and caregiver burden is seen when the caregiver is usually not trained and intensive adaptations to the variety of aspects of the care situation are necessary (Gräßel E, Adabbo R. 2012). Studies showed that four aspects caregiver burden arises from are: care requires much energy, desire for recovery, too little time for own interests and sadness over the fate of the supported person (Grossfeld-Schmitz M, et al. 2010). The timely identification of care burden plays an important role in designing health promotion program in caregivers (Ow R. 2003).

Method of The Study

A descriptive (Cross-Sectional Design) study was conducted on mothers and fathers of children in Baghdad city from the period of 3rd December 2024 to the 15th February 2025. The study was carried out at pediatric teaching hospitals in Baghdad city to assess the psychosocial impact of mothers and fathers regarding children with leukemia. The present study was conducted in Baghdad City; medical ward at both the Children's Central Hospital for Hematology and Children's Central Hospital in Medical City sector of Baghdad city. A non-probability (targeted) sample of 50 parents of children who were admitted to the medical departments of the Central Child Hospital in Baghdad and the Central Child Hospital for Hematology in the Medical City sector in Baghdad city. Parents agreed to participate in the study after clarifying the purpose of their contribution and filling out the audited form.

The Study Instrument

A questionnaire format is constructed as a tool for data collection by the researcher, after extensive review of the relevant literature, and reviewed by a panel of experts. Regarding to the experts' answers and review of literatures, the questionnaire format construction composed of three parts which include all aspect associated to the study title.

Part I: Demographic Data:

The first part is divided into two types:

1. **Demographic characteristics of the family:** it consists of (10) paragraphs, including: (the age of the mother and father, the educational level of the parents, the professional status of the parents, the age of the child, the age of the child during the diagnosis of the disease, there are other affected children in the family, the child's gender, the child's sequence in the family, the number of brothers and sisters).

2. **General information about the family's social status:** It consists of (3) paragraphs that include (Is the father or mother alive, the marital relationship between the parents, the parents' visit to leukemia centers).

Part II: Psychosocial impact upon families of children with leukemia:

The Second part contains two parts:

1. **Psychological impact Upon family:**

is concerned with psychological impact upon the family, it designated form consist of (12) items, the questions contained options (Always , Sometimes , Never) . Rating of the Score.

Always = 3, Sometimes = 2 , Never = 1 .

2. **Sociological Impact upon family**

is concerned with sociological impact upon the family, it designated form consist of (10) items , the questions contained options (Always, Sometimes, Never). Rating of the Score.

Data Analysis Through Statistical Procedures

Data were analysis through the application of the statistical data analysis (Frequency, Percentage, Mean of Score, Person Correlation)

Result of the Study

Table (1): Distribution of Socio-Demographical Characteristics Variables (N=50)

Items characteristics	Age Groups			
Variables	Mothers		Fathers	
	F	%	*f*	%
20-30 years	21	42.0	10	20.0
31-40 years	**25**	**50.0**	**28**	**56.0**
41-50 years	4	8.0	11	22.0
51-60 years	0	0.0	1	2.0
61 and Above	0	0.0	0	0.0
Total	50	100.0	50	100.0
Education Level of the Parents				
Doesn't Read & Write	3	6.0	1	2.0
Read & Write	**17**	**34.0**	4	8.0
Primary Graduation	12	24.0	11	22.0
Secondary Graduation	8	16.0	10	20.0
College	10	20.0	**23**	**39.0**
Post-Graduation	0	0.0	1	2.0
Total	50	100.0	50	100.0
Occupational Status of the Parents				
Employee	10	20.0	20	40.0
Retired	1	2.0	1	2.0
Free work	4	8.0	**26**	**52.0**
Unemployed / Housewife	**35**	**70.0**	3	6.0
Total	50	100.0	50	100.0
Child Age				
Less than 1 year	3		6.0	
1-3 years	16		32.0	
4-7 years	**20**		**40.0**	
8-11 years	10		20.0	
12 years	1		2.0	
Total	50		100.0	
Childs Age when he\she diagnosed with leukemia				
Less than 1 year	5		10.0	
1-3 year	**28**		**56.0**	
4-7 year	13		26.0	
8 years and more	4		8.0	
Total	50		100.0	
Are there other affected Children in the Family				
Yes	2		4.0	
No	**48**		**96.0**	
Total	50		100.0	
Child Gender				
Male	**33**		**66.0**	
Female	17		34.0	
Total	50		100.0	
Child Sequence in the Family				
1-2	**28**		**56.0**	
3-4	18		36.0	
5 and above	4		8.0	
Total	50		100.0	
Number of Brothers				
	Brothers		Sisters	
1-2	**34**	**68.0**	**48**	**96.0**
3-4	16	32.0	2	4.0
5-6	0	0.0	0	0.0
Total	50	100.0	50	100.0

f: Frequency, %: Percentage

Table (1) show that mothers' age group (31-40) are highest percentage constitute (50.0%), while fathers' age group (31-40) were more than half of samples and constitute (56.0). In terms of educational level, (34.0%) of the mothers were able to read and write, while (39.0%) of the fathers were college graduates. (70.0%) of mothers were housewives, while (52.0%) of fathers were Free work. With regard to the age of the child, the study showed that (40.0 %) of the children were in the age group (4-7) years. The study showed that the children who were diagnosed with leukemia (56.0 %) of them were in the age group (1-3) years. There are no other affected children in the family (96.0%). The study results showed that (66.0%) of children were males. (56.0%) of children were in the sequences of (1-2) children in the same family. In terms of the number of brothers and sisters, (68.0%) of the children were brothers, (96.0%) sisters, account (1-2).

Table (2): Distribution of Socio-Demographical Characteristics Variables (N=50)

Items Characteristics	Parents Status (Alive)			
Variables	Mothers		Fathers	
	f	%	*f*	%
Yes	**50**	**100.0**	**49**	**98.0**
No	0	0.0	1	2.0
Total	50	100.0	50	100.0
Relationship Between Parents				
Interconnected	**46**		**92.0**	
Divorced	3		6.0	
Separated	1		2.0	
Total	50		100.0	
Leukemia Center visits				
Regular	**35**		**70.0**	
Irregular	15		30.0	
Total	50		100.0	

Table (2) shows that (98.0 %), (100.0 %) of the fathers and mothers respectively, were alive. The present study also showed that the relationship between the spouses was interdependent at a rate of (92.0%). Finally, the visits to the leukemia center for parents were regular, at a rate of (70.0%).

Table (3): Psychological impact upon families of children with leukemia (N=50)

No.	Paragraphs	Always		Sometimes		Never		Mean	S.D	Ev.
		f	%	*f*	%	*f*	%			
1	We suffer from insomnia due to our child's illness	15	30.0	30	60.0	5	10.0	2.200	.6061	M
2	We feel guilty, especially when our injured child suffers	27	54.0	20	40.0	3	6.0	2.480	.6141	M
3	We feel like crying because of our injured child's illness	28	56.0	19	38.0	3	6.0	2.500	.6145	H
4	We don't know the future of our injured child	20	40.0	29	58.0	1	2.0	2.380	.5303	M
5	We feel despair that our injured child will not be cured	9	18.0	32	.0	9	18.0	2.000	.6061	M
6	We are afraid when we hear the news of the death of a child with the same disease	30	60.0	18	.0	2	4.0	2.560	.5771	H
7	We feel inferior to	4	8.0	25	50.0	21	42.0	1.660	.6263	L

	people's view because of the disease of our affected child									
8	We feel sad for our injured child for not sharing play with his peers because of the disease	38	76.0	9	18.0	3	6.0	2.700	.5803	H
9	We feel sad for our injured child for being away from his peers for long periods due to the disease	32	64.0	15	30.0	3	6.0	2.580	.6091	H
10	It hurts when our injured child is unable to stay in school for long periods of time due to illness	16	32.0	26	52.0	8	16.0	2.160	.6809	M
11	We feel sad for our injured child because of his change of shape due to the disease	42	84.0	6	12.0	2	4.0	2.800	.4949	H
12	We suffer when our colleagues avoid talking about illness	21	42.0	21	42.0	8	16.0	2.260	.7231	M

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Ev. : Evaluated (1 – 1.999) Low Impact (L) ; (2.000 – 2.499) Moderate Impact (M) ; (2.500 – 3.000) High Impact (H).

Table (3) shows that high psychological impact was shown in (5) items in (3, 6, 8, 9, 11). While moderate impact was shown in (6) items in :(1,2,4,5,10, 12). While low impact was shown in (1) item in (7).

Table (4): Sociological impact upon families of children with leukemia (N=50).

No.	Paragraphs	Always		Sometimes		Never		Mean	S.D	Ev.
		f	%	*f*	%	*f*	%			
1	We fail to meet the basic needs of the family because of the illness of our injured child	9	18.0	22	44.0	19	38.0	1.800	.2784	L
2	We need to take a walk to change the atmosphere because of the sadness that fills the house	14	28.0	33	66.0	3	6.0	2.220	.5455	M
3	We cannot perform our normal roles as a family (father, mother, children) due to the illness of our affected child	4	8.0	18	36.0	28	56.0	1.520	.6465	L
4	There is an atmosphere of recurring problems in the house due to the illness of our injured child	3	6.0	28	56.0	19	32.0	1.680	.5869	L

5	We neglected daily marital activities (speak, intimacy, ...) because of our child's illness	4	8.0	31	62.0	15	30.0	1.780	.5817	L
6	We neglected taking care of our other children because of our injured child's illness	7	14.0	18	36.0	25	50.0	1.640	.7217	L
7	We neglected the daily household chores because of our injured child's illness	3	6.0	29	58.0	18	36.0	1.700	.5803	L
8	We stayed away from recreational activities due to the illness of our injured child	15	30.0	25	50.0	10	20.0	2.100	.7071	M
9	We have limited visits to our friends because of our child's illness	16	32.0	28	56.0	6	12.0	2.200	.6389	M
10	We communicate with families who have children with the disease	22	44.0	23	46.0	5	10.0	2.340	.6581	M

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Ev. : Evaluated (1 – 1.999) Low Impact (L) ; (2.000 – 2.499) Moderate Impact (M) ; (2.500 – 3.000) High Impact (H).

Table (4) shows that moderate Sociological impact were shown in (4) items in: (2,8,9,10).

While low impact was shown in (6) item in (1,3,4,5,6,7).

Table (5): Correlation between Psychological impact upon families of children with leukemia and Socio-Demographic characteristic

Impact / Characteristic	Person Correlation	P-value (2-tailed)	Sig.
Mothers' Age	.629	.000	S
Fathers' Age	.535	.000	S
Mothers' educational level	.131	.363	N.S
Father' educational level	.152	.292	N.S
Occupational status of Mothers	.115	.427	N.S
Occupational status of Fathers	-.012-	.936	N.S
Child Age	.584	.000	S
Child Age during Diagnosis	.610	.000	S
Other children affected in the family	.152	.291	N.S
Child Gender	.215	.134	N.S
Child Sequence in the Family	.285	.045	N.S
Number of Brothers	.335	.017	S
Number of Sisters	.363	.010	S

N.S = Not Significant, S= Significant

Table (5) shows that there was no significant relationship found between Psychological impact upon families of children with leukemia and sociodemographic characteristic in (7) items in: (Mothers' educational level, Father' educational level, Mothers' occupation, Fathers' occupation, Other children affected in the family, Child Gender, Child Sequence in the Family), since P> 0.05. While there was a significance relationship found in

(6) items in :(Mothers' age, Fathers' age, Child Age, Child Age during Diagnosis, Number of Brothers, Number of Sisters). since significant levels were accounted at P<0.05.

Table (6): Correlation between Psychological impact upon families of children with leukemia and Socio-Demographic characteristic of family.

Impact / Characteristic	Person Correlation	P-value (2-tailed)	Sig.
Did Father Alive	.395	.005	S
Did mother Alive	.	.	*
Parents Relationship Status	.329	.020	S
Leukemia Center visits	.278	.051	N.S

*S= Significant, N.S = Not Significant, *Not Compute*

Table (6) shows that there was no significant relationship found between Psychological impact upon families of children with leukemia and sociodemographic characteristic in (1) items in :(Leukemia center visits), since P> 0.05. While there was a significance found in (2) items in: (Father Alive, Parents Relationship Status). since significant levels were accounted at P<0.05. The table also demonstrate that mother alive cannot be compute because it need at least one of the variables is constant.

Table (7): Correlation between Sociological impact upon families of children with leukemia and Socio-Demographic characteristic.

Impact / Characteristic	Person Correlation	P-value (2-tailed)	Sig.
Mothers Age	.688	.000	S
Fathers Age	.594	.000	S
Mothers' educational level	.089	.537	N.S
Father' educational level	.056	.700	N.S
Occupational status of Mothers	.030	.836	N.S
Occupational status of Fathers	.039	.790	N.S
Child Age	.637	.000	S
Child Age during Diagnosis	.579	.000	S
Other children affected in the family	.138	.340	N.S
Child Gender	.232	.105	N.S
Child Sequence in the Family	.295	.037	S
Number of Brothers	.003	.982	N.S
Number of Sisters	.283	.000	S

N.S = Not Significant, S= Significant

Table (7) demonstrate that there was no significant relationship found between Sociological impact upon families of children with leukemia and sociodemographic characteristic in (7) items in: (Mothers' educational level, Father' educational level, Mothers' occupation, Fathers' occupation, Other children affected in the family, Child Gender, Number of brother), since P-value was higher than .005. While there was a significance found in (6) items in: (Mothers age, Fathers age, Child Age, Child Age during Diagnosis, Child sequence in the family, Number of Sisters). since significant levels were accounted at P<0.05.

Table (8): Correlation between Sociological impact upon families of children with leukemia and Socio-Demographic characteristic of family.

Impact / Characteristic	Person Correlation	P-value (2-tailed)	Sig.
Did Father Alive	.479	.000	S
Did mother Alive	.	.	*

Parents Relationship Status	.463	.001	S
Leukemia Center visits	.209	.146	N.S

S= Significant, N.S = Not Significant, *Not Compute

Table (8) shows that there is no significant relationship found between Sociological impact upon families of children with leukemia and sociodemographic characteristic in (1) items in: (Leukemia center visits), the P-value were higher than .005. While there was a significance found in (2) items in :(Father Alive, Parents Relationship Status). The P-value were less than .005. The table demonstrate that Mother alive cannot be compute because it need at least one of the variables is constant.

Discussion of the Results

Discussion of Socio-Demographical Characteristics (N=50).

The analysis of results shows that the age of mothers were in range (31-40) and constitute of (50.0%) , also the age of fathers were between the ranges (31-40) and constitute of (56.0%) of the total samples . Our study agree with (Fluchel M et al. 2014) who indicate that most of parents were in the age ranges (31-45) years . The analysis of results shows that the mothers were read and write and constitute of (34.0%) of the samples . While the results of the study indicated that fathers constitute 39.0% of college graduates . Our study Agree with (Van den Tweel et al. 2008) who indicate that mothers were read and write and constitute of (35%) while fathers shows an high education level and constitute (45%) of total samples . The analysis of results shows that the mothers were Housewives and constitute of (70%) of total samples , while the results of the study indicated that fathers occupation constitute (52%) of total samples . Our study agree with (Giraldo CI, et al. 2006) who indicate that (82%) of parents were unemployed because of the needs of the sick child, which prevents him from going to the required job. The analysis of current study indicate that most of Children were between the range (4-7) years and constitute of (40%) of total samples . These results are in line with the research conducted by (Klassen et al. 2011), which showed that parents who cared for their children less than 12 months experienced a worse quality of life because in the first 12 months children still needed a higher intensity of care. The analysis of results shows that the most of children when got diagnose of disease were in range (1-3) years . Our study agree with Pai et al. because in the early stages of diagnosis, parents experience shock, rejection, disappointment, depression, and anxiety about the diagnosis of leukemia that occurs in their child , in the early stages of diagnosis, parents also cannot adjust to the conditions experienced by their children (Pai et al.,2007). The analysis of results shows that (96%) of answers were “No” . This finding agree with (Leow, Chan, & Chan, 2014) because of parents' experience and confidence in caring for their children is also increasing over time. The analysis of current study indicate that most of Children with leukemia were (66%) of total samples. (Pathirana et al. 2015) disagree with our finding because of the inability to predict the gender of the affected child in the family or know the circumstances that lead to infection. The analysis of results shows that (56%) of sequence infected child were between (1-2) . The current study is in line with (Sánchez-Herrera B , et al. 2016) who indicated in his study that the first or second child of the family is more likely to contract the disease because of the link between the genetic genes of the child with their ancestors and is not necessarily from the parents, but may be from the grandparents. The analysis of current study indicate that most of infected children have (1-2) brothers and constitute (68%) while in other hand the study indicate that (96%) of children’s have (1-2) sisters . The current study does disagree with (Montoya A, et al. 2017) who indicated that (50%) of children sometimes may be lonely, which increases the possibility of a child contracting the disease.

Discussion of Socio-Demographical Characteristics (N=50).

The analysis of current study indicate that (100 %) of mothers were alive while (98%) of fathers were alive . Our finding agree with (Dumont, et al. 2006) they indicate most of parents were alive and constitute of (97%) of total samples . The analysis of results shows that (92%) of parents were interconnected . Sanchez-Herrera et al. disagree with Families of children with cancer experience an increase in various items of quality of life, as a result of the diverse experiences and stresses they go through. One of these reasons is the increase in conflicts and emotions in front of the child is in the hospital and at home , the families of chronic patients have witnessed an increase in conflicts and sharp discussions because of their loss of nerve due to the pressures of life (Sánchez-Herrera B, et al. 2016) . The analysis of current study indicate that (70 %) of families were regularly visits the leukemia centers . Our finding disagree with (Santo, Gaíva, Espinosa, Barbosa, & Belasco, 2011) who indicate that more than (65%) of families did not go to leukemia centers because of the very high cost of treatment, which increases the financial burden on the family.

Psychological impact upon families of children with leukemia

The results of the current study indicated that there is a high impact with regard to the leukemia child, that (56%) of the families felt the desire to cry or suffer because of their affected child, and the study also indicated that the high effect is due to their fear of hearing the news of the death of a child with the same disease that affected their child, which constituted (60%) of them, and the study also indicated that there is a high impact on families regarding the non-participation of their injured child with his peers, which causes grief to the child's family, and the effect was on (76%) of the total samples. The study also indicated that the family had a high impact, (64%) of them reported their grief over their injured child due to his inability to communicate with his colleagues or stay with them for long periods. The study indicated that there is a high influence in families due to the change in the shape of their affected child during his illness, and their percentage reached (84%) percent of the total samples.

Alvin Rich (2012) revealed that differences in the level of vulnerability in women and men can be due to factors such as emotional, psychological, and environmental judgment. Men and women have different ways of expressing their feelings. Women tend to be more sensitive about emotional relationships, more involved in feelings, and more understanding of others especially when it comes to caring for their children. While men limit their personal feelings. Durik et al. (2006) stated that women and men can feel the same emotions but that women tend to be more able to express their feelings such as shame, happiness, sadness, passion, guilt and empathy than men. Stark (2002) also stated that the difference may also be related to physiological factors, whereas men tend to be more patient than women because men have more testosterone than women. In addition, Stark (2002) also revealed that judgment in society can affect the individual.

According to Hagedoorn, Sanderman, Bolks, Tuinstra, and Coyne (2008), it could happen because women have the main role as administrators of children, households, and husbands. When one family member is sick, women usually become the main nurse in taking care of the sick family member, so that the burden borne by women can increase and this may have a negative impact on their physical health. In addition, female parents also tend to have poor psychological conditions (56.5%). According to Hagedoorn et al. (2008), women experience higher psychological pressure because, in addition to being in charge of caring for their children, they also have to take care of

their households and husbands. Furthermore, women are also more sensitive to emotional relationships, more involved in feelings, and more understanding of others. So that it tends to make women dissolved in sadness related to the conditions experienced by their children at this time, and that can reduce their psychological well-being (Alvin Rich, 2012).

Sociological impact upon families of children with leukemia.

The results of the current study indicated that there is a moderate impact with regard to the leukemia child that (66%) of families felt stressful and need to walk , (50%) of families they had a moderate impact towards their desire to stay away from recreational activities because of their injured child, while (56%) felt a moderate impact towards the limits they set by not wanting to visit their friends because of their injured child, there was an almost equal effect between moderate and high towards families' communication with the affected child with the families of others also had a child with leukemia, and the rate ranged from (44%), high impact , (46%) moderate impact .

AL-Hadad S A, et al. clarified in his study that families having quick temper, sleep difficulties, disturbed social relation of the parents and neglection of other family members at home might be a normal reaction after having the diagnosis in a family who live among an exhausted society like ours where the challenges are continuous. Deceased social activities of the family not necessary indicate that they became busy, indeed the cancer is considered a stigma in our society made the relatives and friends having some withdrawal from the family or there is concern of having an infection from other visitors (AL-Hadad S A, et al. 2014).

Although the fact that hair loss is reversible and it is the least harmful side effects, still three quarters of families were worried about this issue even after having full explanation from the medical staff. Hair loss is a well-known flag that the patient has cancer and receiving chemotherapy, so the family is hesitant about disclosing information about their child's illness as it might affect their relationships with other family members and with other members of their community – teachers at school and neighbors at home (AL-Hadad S A, et al. 2014) .

Correlation between Psychological impact upon families of children with leukemia and Socio-Demographic characteristic.

The results of the current study indicated that there are a significant relationship between parents age and psychological impact were less than

<0.05 . The study also indicate that there is no significant relationship between parents education and occupation status psychologic domain , the (P-value 2- tailed) were higher than 0.05>.The study indicate that there is a significant relationship between child age and child age during diagnosis with psychological impact , the (P-value 2-tailed) were lower than 0.05> . The study explained there is no significant relationship found in other family member infected with leukemia , child gender , child sequence in the family , the (P-value 2-tailed) were higher than 0.05> . The study indicate that there is a significant relationship between psychological impact and Number of brothers the (P-value 2-tailed) were in 0.17 , the (P-value 2-tailed) indicate that number of sisters were in 0.10 which means that the (P-value 2-tailed) is less than 0.02 .

The results of our study correspond to a study conducted by (Okado et al., 2016) that the association was strong, as the study confirmed that the affected children have a direct effect on the psychological factor of the family, where the correlation coefficients of two components indicated that the greater psychological distress of the family was related to the age of the child ($r = -.33$ and $r = - .24$, $p < .05$), while one indicated the period of disease diagnosis ($r = 0.22$, $p < .05$).

With the increasing prevalence of survival in pediatric cancer patients, understanding factors related to poor outcome during survival has become an important area of focus for genetic etiology, this association indicating that families may experience similar levels of general psychological distress throughout survival regardless About the age of their children when they are first diagnosed and regardless of whether their diagnosis puts them at high or low risk (Patel et al., 2013).

Correlation between Psychological impact upon families of children with leukemia and Socio-Demographic characteristic of family .

The results of the current study indicated that there are a significant relationship between parents living , parents relationship and psychological impact were less than <0.05 . While the study the (P-value 2-tailed) indicate that there is not significant in leukemia center visits and represented .146 higher than 0.05 .

Our current study agrees with (Adler N, Ann K. 2005) where it indicated that the value were less than (*P*- 0.05) . The study included the relationship of the parents to the sick child, and whether the child has a connected family. There was a significant correlation between the parenting relationship and psychological stress, as well as stressful financial resources with the psychological distress index.

Correlation between Sociological impact upon families of children with leukemia and Socio-Demographic characteristic

The results of the current study indicated that there are a significant relationship between parents age and sociological impact were less than <0.05.

The study also indicate that there is no significant relationship between parents education and occupation status with sociologic domain , the (P- value 2-tailed) were higher than 0.05>.The study indicate that there is a significant relationship between child age and child age during diagnosis with sociological impact , the (P-value 2-tailed) were lower than 0.05> . The study explained there is no significant relationship found in other family member infected with leukemia , child gender , the (P-value 2-tailed) were higher than 0.05> . The study indicate that there is a significant relationship between sociological impact and sequence if child in family , (P-value 2-tailed) were in 0.37, the (P-value 2-tailed) indicate that number of sisters were in .000 which means that the (P-value 2-tailed) is less than 0.05 .

The current study agrees with (McDougal & Tsonis, 2009) where it found statistical significance between the social distress index and the affected child's age was closely related ($r = -20$ to $-.28$, $p < .05$). It may be that age at diagnosis is related to particular types of child emotional and physical functioning, but not others, resulting in a lack of association with a general measure of sociological distress.

Correlation between Sociological impact upon families of children with leukemia and Socio-Demographic characteristic of family.

The results of the current study indicated that there are a significant relationship between parents living , parents relationship and sociological impact were less than <0.05 . While the study the (P-value 2-tailed) indicate that there is not significant in leukemia center visits and represented .146 higher than 0.05 .

We agreed with other researchers (Dolgin M, et al. 2007 .. Wilkins KL, et al. 2006) that higher level of parenting stress score is (P- 0.01) associated with lack of support from the other spouse and parents' feeling of being socially isolated with restricted time for personal activities which in turn affect all aspects of child's domain during sickness.

Recommendations

Social institutions should provide psychosocial interventional programs for parents of children with leukemia to reduce the stress in the family and intervention programs to provide the information about coping strategies to help the families deal with the problem. Activating the role of psychiatric nurses and social worker in pediatric hospitals in order to help families of children with leukemia to decrease the level of stress during their attendance to the hospital.

References

1. Adler N, Ann K. Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs. Institute of Medicine (IOM); 2005. Available from: http://www.nap.edu/catalog/11993. html. [Last accessed on 2015 Jan 15].

2. AL-Hadad S A, AL Jadiry M F, Claudia L. Palliative care in Iraq. Palliative care to the cancer patients. The Middle East as a Model for Emerging Countries. Nova science publishers, Inc, New York. 2014; 27.

3. Alvin Rich, II (2012). *Gender and spirituality: Are women really more spiritual?* (Senior thesis), Liberty University, Virginia.

4. Arber DA, Orazi A, Hasserjian R, Thiele J, Borowitz MJ, Le Beau MM, Bloomfield CD, Cazzola M, Vardiman JW. The 2016 revision to the World Health Organization classification of myeloid neoplasms and acute leukemia. Blood. 2016 May 19;127(20):2391-405.

5. B.M. Newman, P.R. Newman, in Encyclopedia of Adolescence, 2011

6. Baronet AM. The impact of family relations on caregivers' positive and negative appraisal of their caretaking activities. Family Relations. 2003; 52(2):137-42.

7. Bispo JAB, Pinheiro PS, Kobetz EK. Epidemiology and Etiology of Leukemia and Lymphoma. Cold Spring Harb Perspect Med. 2020 Jun 01;10(6)

8. Björk, M., Wiebe, T., & Hallström, I. (2005). Striving to survive: Families' lived experiences when a child is diagnosed with cancer. Journal of Pediatric Oncology Nursing, 22, 265–75.

9. Brodaty H, Donkin M. Family caregivers of people with dementia. Dialogues in clinical neuroscience. 2009; 11(2):217.

10. Brunning RD. Classification of acute leukemias. Semin Diagn Pathol. 2003 Aug;20(3):142-53.

11. Buhse M. Assessment of caregiver burden in families of persons with multiple sclerosis. Journal of Neuroscience Nursing. 2008; 40(1):25-31.

12. Collins LG, Swartz K. Caregiver care. Am Fam Physician. 2011;83:1309-17.

13. Cooper C, Katona C, Orrell M, Livingston G. Coping strategies, anxiety and depression in caregivers of people with Alzheimer's disease. International Journal of Geriatric Psychiatry: A journal of the psychiatry of late life and allied sciences. 2008; 23(9): 929-36.

14. Cooper SL, Brown PA (2015) Treatment of Pediatric Acute Lymphoblastic Leukemia. Pediatric Clinics of North America 62: 61-73.

15. Davis AS, Viera AJ, Mead MD. Leukemia: an overview for primary care. Am Fam Physician. 2014 May 01;89(9):731-8.

16. Dolgin M, Phipps S, Fairclough D, et al. Trajectories of adjustment in mothers of children with newly diagnosed cancer: a natural history investigation. J Pediatric Social. 2007;32:771–782.

17. Duci, Veronika, & Tahsini, Izela. (2012). Perceived social support and coping styles as moderators for levels of anxiety, depression and quality of life in cancer caregivers: A literature review. *European Scientific Journal, 8*(11).

18. Dumont, Serge, Turgeon, Jean, Allard, Pierre, Gagnon, Pierre, Charbonneau, Cecile, & Vezina, Lucie. (2006). Caring for a loved one with advanced cancer: determinants of psychological distress in family caregivers. *Journal of Palliative Medicine, 9*(4), 912-921.

19. Durik, Amanda M., Hyde, Janet Shibley, Marks, Amanda C., Roy, Amanda L., Anaya, Debra, & Schultz, Gretchen. (2006). Ethnicity and gender stereotypes of emotion. *Sex Roles, 54*(7-8), 429-445.

20. Eisenman, D. P., Glik, D., Ong, M., Zhou, Q., Tseng, C. H., Long, A., et al. (2009). Terrorism-related fear and avoidance behavior in a multiethnic urban population. American Journal of Public Health, 99, 168–174.

21. Fluchel M, Kirchhoff A, Bodson J, Sweeney C, Edward S, Ding Q, et al., Geography and burden of care in pediatric cancers. Pediatr. Blood Cancer. 2014; 61(11):1918–924.

22. Freifeld AG, Bow EJ, Sepkowitz KA, Boeckh MJ, Ito JI, Mullen CA, Raad II, Rolston KV, Young JA, Wingard JR., Infectious Diseases Society of Americaa. Clinical practice guideline for the use of antimicrobial agents in neutropenic patients with cancer: 2010 Update by the

Infectious Diseases Society of America. Clin Infect Dis. 2011 Feb 15;52(4):427-31.

23. Friedman DL, Whitton J, Leisenring W, Mertens AC, Hammond S, Stovall M, Donaldson SS, Meadows AT, Robison LL, Neglia JP. Subsequent neoplasms in 5-year survivors of childhood cancer: the Childhood Cancer Survivor Study. J Natl Cancer Inst. 2010 Jul 21;102(14):1083-95.
24. Giraldo CI, Franco GM. Calidad de vida entre los cuidadores familiares.
25. Aquichán. 2006; 6(1):38-53.
26. Gräßel E, Adabbo R. Perceived burden of informal caregivers of a chronically ill older family member. GeroPsych. 2011, 24(3): 143.