Psychiatric Disorders Among Children Attending Children Cancer Department in Gaza Strip

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Abstract

Aim: The main goal of this study was to clarify the prevalence of psychiatric disorders among cancer children attending pediatric hospital in the age group from 6-12 years in the oncology department of El-Nasser Hospital.

Method: The study sample consisted of 50 children, 92% of them had Leukemia compared to a control sample of 52 children treated in the hospital for other medical reasons rather than cancer and had no previous mental health disorder or mental retardation. These psychiatric disorders include anxiety, depression and post traumatic stress disorder.

Data was collected by using questionnaire consisted of a number of scales and divided into four parts, the first part contains the demographic data, the second part contains child post traumatic stress disorder scale CPTSD, the third part contains Children Depression Inventory scale CDI, and the fourth part contains Revised Children Manifest Anxiety Scale RCMAS and all these scales were applied on the study sample.

Results: The study showed that most of cancer children 38% live in refugee camps, while 30% of them live in city and 32 % live in the village.

The results of the study show that 56% of cancer children compared by 11.54% of the children in the control group had anxiety disorder, and 64% of cancer children compared with 27% of the children in the control group had moderate to severe depression and 58% of the cancer children compared to 19.2% of the control group had PTSD. The children diagnosed with cancer had more statistically significant differences in anxiety depression PTSD than other control group.

There were no statistically significant difference in the type of residence for anxiety and PTSD variables, but depression was highly rate in children with cancer who live in the city than in village and camps. and there no were statistically significant differences between cancer children and children in the control group in the number of siblings. According to gender, both males and females are affected by psychiatric disorders. The study also shows that the children of cancer live in low socio-economic status as social income than those in the control group. This study can be generalized for other cancer children in Gaza Strip. The researcher recommended that educational, recreational and psychological programs would be developed to decrease the suffering of cancer children and their families. This can be achieved by integrated mental health team from psychiatrists, psychiatric nurse's, psychologists, and social workers to establish individual psychotherapy, group therapy, social programs to cooperative with patients in hospital or home and Prepare education program for family to increase knowledge to support the children with cancer and their families. The researcher also recommended conducting longitudinal study to follow up the psychiatric disorders for children with cancer and their families.

ملخص الدراسة

الهدف الرئيسي: هدفت الدراسة إلي معرفة نسبة انتشار الاضطرابات النفسية بين مرضى أطفال السرطان من الفئة العمرية 6-12 سنة في قسم الأورام بمستشفي النصر للأطفال وتشمل القلق والاكتئاب والاضطراب ما بعد الصدمة مقارنة بأطفال آخرين مصابين بأمراض أخرى ليس لها علاقة بمرض السرطان.

عينة الدراسة : تكونت عينة الدراسة من 50 طفل وطفلة مصابون بمرض السرطان وعينة ضابطة 52 من الأطفال الذين يترددون علي المستشفي بشرط أن لا يكون الطفل قد أصيب بأي نوع من أنواع السرطان وليس لديه مرض نفسي أو تخلف عقلي.

جمع البيانات : قد تم جمع البيانات الخاصة بالبحث عن طريق تصميم استبانه باستخدام عدد من المقاييس وتشمل أربعة أجزاء , الجزء الأول يتعلق بالعوامل الديموغرافية, والجزء الثاني مقياس كرب ما بعد الصدمة النفسية للأطفال "PTSD" , ومقياس الاكتئاب CDI ومقياس القلق RCMAS

نتائج الدراسة: تبين من الدراسة أن 30% من الأطفال المصابين بالسرطان يسكنون في المدينة ,و38% منهم يسكنون المخيمات؛ وبينما المرضي الذين يسكنون القرى 32% .

أما بالنسبة لنوع الإقامة فلا يوجد فروق ذات دلالة إحصائية بين الأطفال المصابين بالسرطان والعينة الضابطة لاضطراب القلق واضطراب كرب ما بعد الصدمة إلا أن مرض الاكتئاب أوجد دلالة إحصائية أكثر لأطفال السرطان الذين يسكنون المدينة.

وقد أظهرت نتائج الدراسة أن 56% من الحالات المصابة بالسرطان مقارنة 11.54% من الحالات الغير مصابة لديهم قلق نفسي , وقد تبين أيضا أن 64% من الحالات المصابة بالسرطان مقارنة 27% من الحالات الغير مصابة لديهم اكتئاب نفسي ما بين متوسط وشديد , وان 58 % من الحالات المصابة مقارنة 19.2 %من الحالات الغير مصابة لديهم اضطراب ما بعد الصدمة.

هناك دلالة إحصائية أن الأطفال الذين يعانون من مرض السرطان يعانون من اضطرابات نفسية أكثر من غيرهم من الأطفال في المجموعة الضابطة.

بينما كان معدل المرضي المصابين بمرض اللوكيميا يمثل نسبة 92% من مجموع الحالات المصابين بمرض السرطان وأن نسبة الشفاء من مرض السرطان للأطفال يمثل 90% من مجموع الحالات المصابة.

وقد وجدت الدراسة أنه لا يوجد فروق ذات دلالة إحصائية بين المرضى السرطان والمرضى الغير مصابين بالسرطان من حيث عدد الأخوة , أي أن جميع المرضى يتأثرون بالاضطرابات النفسية بنفس القدر إذا كان عدد الأخوة كثيراً أو قليلاً.

ولم تجد الدراسة أي فروق ذات دلالة إحصائية بين الجنس حيث أن الأطفال سواء كانوا ذكورا أم إناثا فأنهم يتأثروا بالاضطرابات النفسية بنفس القدر سوءاً كانوا من الأطفال المصابين بالسرطان أو العينة الضابطة. كما أظهرت الدراسة أيضا أن مستوي الدخل الاقتصادي والاجتماعي اقل في مرضى السرطان مقارنة بالعينة الضابطة.

إلا أنه يمكن تعميم هذه الدراسة علي أطفال السرطان في قطاع غزة حيث تم جمع العينة من كل الأطفال الموجودين في قسم الأورام في مستشفى الأطفال. كما أوصت الباحثة بعدة اقتراحات والتي توصي بعمل برامج خاصة تثقيفية نفسية وبرامج ترفيهية لتخفيف الآلام لدي مرضى السرطان عن طريق إنشاء فريق نفسي متكامل من أطباء وتمريض وأخصائيي نفسي وأخصائيي اجتماعي لتقديم الخدمات النفسية لأطفال السرطان وذلك بإنشاء ودعم برامج توعية تعليمية نفسية بإنشاء مجموعات علاجية وبرامج تثقيفية لعائلات المرضى حتى يسهل التعامل مع المريض ومعرفة طبيعة مرضه ومساعدته , سوء في المستشفي أو البيت وذلك للتدعيم النفسي للأطفال المصابين بالسرطان وكذلك عائلتهم. كما أوصت الباحثة بعمل دراسة طولية تتبعيه لمعرفة حجم المشاكل النفسية لدي أطفال السرطان وعلي أمهات المرضى أيضا الذين يعانون بصورة كبيرة.

Introduction

The incidence of cancer in children is lower than that in adults. It is estimated that the overall incidence in children below 14 years was 14.8 per 100 000 of child population for the year 2004 in the USA (Miller et al. 1995; SEER 2007). Malignant neoplasm was the leading cause of death for 30 child aged 0-18 years in 2003, 15 child aged from 0-4 years and 15 child aged from 5-18 years old (MoH, 2004).

Most of children with cancer are passing periods of anxiety and depression during the course of their illness. For many children, anxiety symptoms are related to procedures during the illness period such as receiving chemotherapy. A child may appear depressed during acute exacerbation of the disease. He may feel better when there is physical improvement. Children may also be depressed during staying at the hospital due to missing regular daily activities or not seeing friends (Selter, 1990). Others found that children with cancer did not have higher depression scores than did their healthy peers (Matziou et al, 2008).

Studies showed that children with other medical conditions are showing a degree of mental health problems (Thabet et al, 2005). Ortage, et al (2002) examined the associations between psychiatric disorders and both childhood asthma and other childhood chronic illnesses. The results showed that having a history of asthma was associated with anxiety disorder. Having a chronic illness other than asthma or cancer was associated with affective disorder and dysthymia but not anxiety disorder. Children with a history of asthma were more likely to have anxiety disorder, simple phobia, separation anxiety, and overanxious disorder than children without a history of asthma and no differences by history of asthma were found for affective disorder or disruptive disorders (Mcquaid et al., 2000; Perrin et al., 1992) and psychiatric disorders (Bryant and Panasetis, 2001).

The aim of the study was to compare the prevalence of psychiatric disorders such as anxiety, depression, and PTSD among cancer children with other children attending oncology department in pediatric hospital.

Methodology

Subjects

We selected 57 children with caner aged 6–12 years from oncology department at El Nasser pediatric hospital in Gaza city. We could not contact seven children because of difficulty in contacting the families. The local research ethics committee approved the study. We selected a control group of 52 children matched for age (6-12 years) and sex from the same pediatric hospital coming for treatment of other medical conditions rather than malignancy.

Study setting

Health services for cancer children in Gaza Strip are provided by El Nasser pediatric hospital and Gaza European hospital.

Measures and procedures

Before we started data collection, official letters from the authorities concerning such studies were issued. Participants received complete oral written explanation about the objectives of study and the time for the interview. A written consent form was signed by parents of the children.

Children sociodemographic and medical information were gathered from parents including parental education, job, and income. Children were interviewed inside the hospital team consisted of 4 people including researcher and other one psychologist and other 2 psychiatric stuff nurse. We ensured participants about the privacy and confidentiality of the information. Each interview took 20-25 minutes. There were some difficulties facing the researcher, which some of children with cancer were going under painful procedures and it was difficult to communicate with them. Data collection was conducted in the period from June 2006 to October 2006.

Instruments of the study

Research instrument have two parts:

(1) Questionnaire of socio-demographic and economics, include age, sex family income, and educational level.

(2) Instruments used depression, anxiety, and PTSD scale.

Posttraumatic Stress Disorder Scale (DSM-V, 1994)

A standardized 17 items, self report measure designed to assess posttraumatic stress disorder of children of 6-12 years following exposure to a threatening illness and cancer as a traumatic event. It includes three subscales. Intrusion (0-4 items), Avoidance (5-11 items), items and Hyper arousal (11-16 items), the scale has been found to detecting the likelihood of PTSD. The CPTSD used in this study was based on DSM criteria and has already been validated in the Arab culture (Thabet and Vostains, 2004).

Revised Children's Manifest Anxiety Scale (RCMAS), Reynolds and Richmond , 1997)

The anxiety scale is a standardized 37-item, self-report questionnaire for children of 6-19 years of age. It measures the presence or absence of anxiety-related symptoms (Yes, or no answers) in 28 anxiety items and 9 lie items, factor analysis of the items has identified three factors, physiological, worry over sensitivity and concentration. A cut-off 19 of total score to become 28 items has been found to predict the presence of anxiety disorder (Thabet, and Vostains, 1998).

Children Depression Inventory (CDI)(Gareeb, 2000)

The CDI is a standardized self-report questionnaire of depressive symptomatology (Gareeb, 2000). This has been developed for children and young people of 6-17 years old. The CDI include (27 items), each scored on a 0-2 scale (from not diseased to sever) for the previous 2 weeks. The total score ranges between 0-54, and the score of above 19 has been found to indicate the Likelihood of a depressive disorder.

Statistical analysis

Statistical analyses were performed using SPSS for Windows, Version 10.0 (SPSS, Chicago, Ill). Individual variables were examined by percentage, mean, and standard Differences between the children with cancer and control groups in psychiatric disorders was assessed using t independent test. Statistical relationship between the variables were assessed using P value were calculated for the ordinal level measures ($p<0.05$).

Results

Sociodemographic characteristics of the study sample.

As shown in table 1, the total number of children with caner was 50 children, 48% were boys and 52% were girls. While control group children were 52 children, 50% were boys and 50% were girls.

Table 1 : Sociodemographic characteristics of the study sample

	Cancer cases		Control	
	No	%	No	%
Sex				
Male	24	48	26	50
Female	26	52	26	50
Age				
6-9 years	22	44	25	48.08
9 to 12 years	28	56	27	51.92
Place of residence				
City	15	30	19	36.54
Refugee camp	19	38	11	21.15
Village	16	32	22	42.31
Siblings				
more than 8 siblings	15	30	15	28.85
5-7 siblings	23	46	24	46.15
less than 4 sibling	12	24	13	25.00
Family monthly income				
Less than 275 $	28	56	22	42.31
From 276-570	14	28	16	30.76
From 571-860	8	16	6	11.54
More than 860	0	0	8	15.38
Father education				
Elementary	2	4	1	1.92
Primary	14	28	5	9.62
Secondary	22	44	13	25.00
Diploma	8	16	12	23.08
University degree	4	8	15	28.85
High education	0	0	6	11.54
Mother education				
Elementary	4	8	1	1.92
Primary	10	20	12	23.08

Secondary	21	42	17	32.69
Diploma	11	22	14	26.92
University degree	2	4	8	15.38
High education	2	4	0	0.00
Father job				
Unemployed	12	24	6	11.54
simple worker	15	30	8	15.38
professional worker	14	28	11	21.15
civil employee	8	16	24	46.15
farmer	1	2	3	5.77
Mother job				
House wife	48	96	34	65.38
Farmer	2	4	6	11.54
Employee	0	0	12	23.70

Diagnosis of cancer in children

As shown in table 2, 37 cases were diagnosed as acute lymphoblastic leukemia (74%), 9 cases were diagnosed as acute myeloid leukemia (18%), and the remaining were Hodgkin's, brain tumor, and lymphoma. According to period of treatment**,** 3 of cancer children treated since 3 months, (6%), 15 cases treated from 3-6 months (30%), 15 cases from 6-12 months (30%), 15 cases treated from one-two years (30%) and the lower cases are treated more than 2 years represent (4%). As shown in table 2 most of cases treated by chemotherapy, 48 children with cancer represent (96%), and by bone marrow transplantation and radiation therapy 2 cases represent (4%).

Table 2: Diagnosis of cancer in children

Diagnosis	No.	%
Acute lymphatic Leukemia	37	74
Acute myeloid leukemia	9	18
Hodgkin's	1	2
Brain tumor	1	2
Lymphoma without Hodgkin's	2	4
Date of exploration		
3 months	3	6
From 3-6 months	15	30
from 6- 12 months	15	30
one - two years	15	30
more than two years	2	4
Types of therapy of		
Chemotherapy	48	96
Radiation therapy	2	4

Psychiatric problems in children

In order to find the differences between the two groups in psychiatric problems, t independent test was performed. The results showed that children with cancer reported more anxiety than the control group (mean = 19.98 vs 9.3). The differences reached statistically significant level toward children with cancer. The results showed that children with cancer depression scores mean was 26.92 and control mean depression scores was 24.31. No statistically significant differences between the two groups (t = 1.76, p= 0.08). Also, total scores of PTSD mean for children with cancer was 35.06 and for control was 32.79. No statistically significant differences in total PTSD scores between the two groups (t = 0.97, p = 0.34). Avoidance scores were more in control group mean =14.17 and children with cancer mean = 13.78. This difference did not reached statistically significant difference (t = -0.39, p = 0.7). Re-experiences scores mean for cancer children was 11.17 and for control was 8.82. There was statistically significant differences toward control group children (t = -3.50, p = 0.001)

Arousal scores were more in children with caner (mean = 11.56) compared to 8.35 in control group children. There were statistically significant differences between the two groups toward the children with caner (t = 3.58, p = 0.001).

Table 3: T independent test comparing cancer children and control according the anxiety, PTSD, reexperiences, avoidance, and arousal

		N	Mean	SD	t	p
Anxiety	**Cases**	**50**	**18.98**	**6.37**	**7.82**	**0.00**
	Control	52	9.31	6.12		
Depression	Cases	50	26.92	3.83	1.76	0.08
	Control	52	24.31	9.81		
PTSD	Cases	50	35.06	11.96	0.97	0.34
	Control	52	32.79	11.77		
Avoidance	Cases	50	13.78	5.09	-0.39	0.70
	Control	52	14.17	5.03		
Reexperiences	Cases	50	8.82	3.43	-3.50	0.00
	Control	52	11.17	3.36		
Arousal	Cases	50	11.56	4.56	3.58	0.00
	Control	52	8.35	4.50		

Discussion

This paper aimed to compare psychiatric disorders in children with cancer and control groups children. The results showed that depression scores in children with cancer did not differ from the control group. The results showed that children with cancer reported more anxiety than the control group. This is inconsistent with study of Radcliffe et all (1996) which found that children with brain tumors scored significantly below established norms on measures of anxiety and depression. Given the potential stressors associated with the cancer experience, there has been a burgeoning interest in understanding these counter-intuitive findings that children with cancer report few symptoms of distress. Several ideas have been proposed to explain the relatively low levels of depression, anxiety, and other emotional distress reported among caregivers and children with cancer. One speculation is that various aspects of the cancer experience provide protective influences in fostering hardiness and improved psychosocial outcome (Verrill et al, 2000). Another plausible hypothesis that has received empirical support is that children with cancer and their caregivers are prone to a repressive adaptational style. Other such as of Yeh and Wong (2004) found that children with cancer reported high rates of significant depression. The study of Sawyer, et al (1997) reported that depression in children with cancer were significantly higher than children in the community. It seems likely that depression reflected the impact of treatment, chemotherapy and other invasive medical procedures on the children with cancer. However, our result were in concordance with previous finding by Varni et al (2004) showing that higher pain intensity is associated with higher depression and anxiety symptoms among children with cancer as a comparative study with community children.

Our study found that children with cancer scores more in PTSD and avoidance, but no statistically significant differences in total PTSD scores between the two groups, re-experiences scores mean for cancer children was 11.17 and for control was 8.82. There were statistically significant differences toward control group children. Arousal scores were statistically significant toward the children with caner. This could be due to the political situation in the Gaza Strip in which non cancer children will stay more at home and will exposed to more

traumatic events than children with cancer staying at hospital for longer period of time protected by the medical teams and parents. This is inconsistent with other studies, Meesk et al (2001), found that children with cancer and survivors reported clinically significant levels with PTSD than the population, and the survivors with PTSD reported poor quality of life.. Yeh and Wong (2004) found that children with cancer have significant PTSD symptoms, including intrusion and avoidance which return to the high tendency of emotional and behavioral problems scores for pediatric oncology patients and suggested that they should receive psychological care.

Conclusion

This study aimed to study the rate of psychiatric disorders among children with cancer compared with case control group of children attending to pediatric oncology department aged 6-12 years old in Gaza strip and differences of these psychiatric disorders particularly anxiety, depression and PTSD to sex, number of sibling, type of residence, educational level, types of cancer, and socioeconomic factors. The study found that children with caner had more anxiety than the control group and also arousal was more in such children. The findings that there were no differences in PTSD and depression could be due to presence of other factors rather than being diagnosed as cancer is traumatic events such as poverty, abuse and neglect, family violence, cultural factors, and the bad socioeconomic situation of the families in the Gaza Strip.

The findings of this study concluded that we had to recommend the following : 1) Establish multidisplenary team, psychiatrist, psychiatric nurse, psychologist and social worker to promote psychological needs of children and palliative care treatment. 2) Developed the out patient clinic by computerized system for medical cancer index. 3) More psychological programs directed to the children with cancer especially during invasive chemotherapy and educating family about cancer. 4) Health care for children with cancer should include psychological services to prevent long-term psychiatric problems. 5) Enhancing community mental health programs for psychological support for children with cancer and their families especially their mothers through home visits and follow up.

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