

# Family Supporting on Quality of Life among Children with Cancer in Women and Children Harapan Kita Hospital, Jakarta

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## Abstract

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**Background:** The prevalence of cancer is continuously increasing every year. Cancer treatment has a long duration, that side effects in children impact their quality of life. Therefore, family support is needed to improve the quality of life in children. **Objective:** This study aimed to find a correlation between supporting the family on the quality of life of children with cancer. **Method:** The method of this study was a cohort study with seven days of follow-up of the respondent. The sample accounted for 28 children hospitalized in Anggrek Ward and Outpatient Hemato-Oncology from June-August 2022 and collected data using PedsQL 4.0 Generic Core Scales Questionnaire and family support questionnaire. **Result:** The result was a significant correlation between family support and quality of life in children with cancer during seven days of follow-up ( $p < 0.005$ ) with a positive correlation. This study also found that the social function had a higher and lower mean value than the school function. **Conclusion:** The higher the family support, the better the quality of life for children. **Recommendation:** the family is always expected to attend to the child during the hospital, hospice, or home treatment.



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## INTRODUCTION

Cancer is a disease marked by the growth and uncontrolled spread of abnormal cells. The uncontrolled spread of cells will cause unidentified cancer. The incident had an impact on finding cancer in advanced stages that are difficult to treat and will cause death (1,2). These incidents occur in children.

The prevalence of cancer increased. The child with cancer diagnosed is estimated to be approximately 10.470 children in the United States under 15 years in 2022 (3). Approximately 20-30% of the children can survive in developing countries, and more than 85% in developed countries (4,5). In Indonesia, there are approximately 14.000 new pediatric patients with cancer every year, which is estimated at 11.000 and 650 cases found in Jakarta. Most cancer patients come from the low class family (yayasan onkologi anak Indonesia, 2022). Leukemia is the most type of cancer in children (1).

The management of cancer in children shows that treatment of cancer is very important such as chemotherapy, radiotherapy, and stem cells. The treatment will create side effect in children, and some treatment for cancer are ineffective in advanced cancer (6,7). The incident will impact the quality of life of children.

The change in quality of life in children with cancer can be caused by disease and the impact of the treatment. The quality of life in children consists of the physical domain, physiology, emotional and school function. School function had a lower value compared to other domains (8-10).

The supporting family is very needed during treatment. The support is conducted with various factors consisting of information, evaluation, instrumental, emotional and social support (11). A good supporting family can improve quality of life in children with the good support families can increase the children's quality of life. In contrast, if the support from the family is poor, the children's quality of life will be disturbed.

Based on preliminary study on July 01, 2022, there were 97 primary school students who were hospitalized due to cancer at Women and Children Hospital Harapan Kita in

January-May 2022. Most of the cancers treated on children in RSAB Harapan Kita are leukemia. The result of interviews with five mothers whose children are treated with leukemia found that the mother attended the treatment of children for almost one year. The parents always accompany and give support so that children are always in spirit, especially during chemotherapy and post-chemotherapy.

Additionally, based on the observation of children, they do many things they like, such as coloring, reading a book, and watching. These activities are significant in reducing fear in children and help them to distract their minds.

Currently, research related to supporting family and quality of life in children has often been carried out in Indonesia. But, the cohort study related to this issue is limited. Based on the above background, the researcher is interested to analyzing "The supporting family on children's quality of life with cancer at Women and Children Harapan Kita Jakarta."

## OBJECTIVE

This study aims to examine the correlation between the supporting the family with quality of life among children with cancer.

## METHODS

### Design

This research is a quantitative descriptive study with a cohort perspective research design. This research was conducted in Women and Children Harapan Kita Jakarta, which is the national pediatric referral hospital in Indonesia.

### Sample, sample size, and sampling technique

The population in this research was all children with cancer with 5-18 years in women and children harapan kita with 97 children. The Sample in this research was 28 child school-age children with cancer from June until August 2022 in the Anggrek ward and outpatient hemato-oncology Women and Children Harapan Kita with total sampling method.

### Data collection process

This research was conducted for three months, from June until August 2022, in the Anggrek ward and Outpatient Hemato Oncology Women and Children Harapan Kita.

This research was a repeated measure or follow-up of the assessment of supporting family and quality of life in children during seven days. For children continuing treatment at home or hospice, the follow-up by WhatsApp or video call with parents

### Instrument for data collection

This study used some instruments consisting of demographic data measurement about children data (age, gender, types of cancer, treatment duration, comorbid, and relapse period).

The quality of life assessment used *PedsQL 4.0 Generic Core Scales*. *PedsQL 4.0 Generic Core Scales questionnaire* consisted of 23 questions for measuring 4 multidimensional scales: Physical function (8 questions), emotional function (5 questions), social function (5 questions), and school function (5 questions) (Varni, J., Burwinkle, T., Seid, 2005). This questionnaire has been tested through a content validity test by three experts in Indonesian with a value = of 0.79 and a family support questionnaire with a value = of 0.68.

### Data analysis

The data analysis consisted of univariate analysis and bivariate analysis. The univariate analysis described the distribution of frequency and percentage. Bivariate analysis using spearman rank test.

### Ethical consideration

This research was approved by the ethics committee Esa Unggul University with number 0922-08/047/DPKE-KEP/FINAL-EA/UEU/VIII/2022 and ethics committee Women and Children Harapan Kita with number IRB/24/08/ETIK/2022 as well consider.

## RESULTS

The results of this study describe demographic data consisting of the child's age, gender, type of cancer, duration of treatment, comorbidities, relapse period, and data on the quality of life of children consisting of physical, emotional, social, and emotional function on the first day until day 7.

Table 1 shows that the majority of respondents were preschool (57.1%), male

(64.3%), diagnosed with leukemia (89.3%), underwent 1-2 years of treatment (64.3%), had no comorbidities (89.3%), never experienced a recurrence of cancer (89.3%) and accompanying the child during treatment as the mother (89.3%).

Table 1. The Characteristics of patients' demographic data

No	Variable	N	%
1	Age (years) a. 5-6 (preschool) b. 6-12 (school) c. 12-18 (adolescent)	16 5 7	57.1 17.9 25
2	Gender a. Male b. Female	18 10	64.3 35.7
3	Cancer types a. Leukemia b. Wilms tumor c. Others (Germ cell)	25 2 1	89.3 7.1 3.6
4	Treatment duration (years) a. <1 b. 1-2 c. ≥3	9 18 1	32.1 64.3 3.6
5	Comorbidity a. Yes b. No	3 25	10.7 89.3
6	Recurrence a. Yes b. No	3 25	10.7 89.3
7	Accompanying the child during treatment a. Father b. Mother	3 25	10.7 89.3

Table 2 showed that the first-day social function had the highest range value was 19,95 ± 1,053, and lower value was the school function was 15,32 ± 3,163. The result showed that correlation coefficient  $r=0,583$  with  $p\text{-value} = 0,001$ , which means there was a significant relationship between the children's quality of life with family support for the first day. Positive correlation shows that the higher the family support, the quality of life of children will get better

Table 3 illustrates that the highest mean was on social function (mean= 17.82, SD= 2.74), and the lowest mean was on school function (mean= 15.07, SD=3.27). The result showed that

there was a significant relationship between the children's quality of life with supporting the family for children in their second days

Table 2. Correlation of supporting the family with quality of life children with cancer on the first day

Quality of Life Aspects	Mean	SD	r	Pv
Physical function	17.86	5.370	0.583	0.001
Emotional function	18.00	2.478		
Social function	19.59	1.053		
School function	15.32	3.163		

Table 3. Correlation of supporting the family with quality of life children with cancer in second days

Quality of Life Aspects	Mean	SD	R	Pv
Physical function	17.21	5.566	0.583	0.001
Emotional function	17.71	2.813		
Social function	17.82	2.749		
School function	15.07	3,276		

Table 4. Correlation of supporting the family with quality of life children with cancer in third days

Quality of Life Aspects	Mean	Median	R	Pv
Physical function	17.10	5.730		

Emotional function	17.53	3.605	0.564	0.05
Social function	18.53	2.364		
School function	14.42	3.785		

According to Table 4, the highest mean was on social function (mean= 18.53, SD= 2.364), while the lowest score was on school function (mean=14.42, SD= 3.785). The result showed that there was a significant relationship between the children's quality of life with supporting the family children on the third day.

Table 5. Correlation of supporting the family with quality of life children with cancer in fourth days

Quality of Life Aspects	Mean	SD	r	Pv
Physical function	17.21	4.210	0.531	0,005
Emotional function	19.10	1.594		
Social function	18.82	2.055		
School function	15.00	3.185		

Table 5 shows that the highest mean was on social function (mean= 18.82, SD= 2.055), and the lowest mean was on school function (mean= 15.00, SD=3.185). The result showed that correlation coefficient  $r=0,531$  with  $p$ -value = 0.005 which means there was a significant relationship between the children's quality of life with family support for the fourth days. Positive correlation shows that the higher the family support then, the quality of life of children will get better.

Table 6. Correlation of supporting the family with quality of life children with cancer in fifth days

Quality of Life Aspects	Mean	SD	R	Pv
Physical function	17.86	4.42	0.583	0.001
Emotional function	18.82	2.262		
Social function	19.57	1.069		
School function	13.57	2.911		

Table 6 reports that the highest mean was on social function (mean= 19.57, SD= 1.06), and the lowest mean was on school function (mean= 13.57, SD=2.91). The result showed that correlation coefficient  $r=0,583$  with  $p\text{-value} = 0,001$ , which means there was a significant relationship between the children's quality of life with family support for the fifth day.

Table 7. Correlation of supporting the family with quality of life children with cancer in sixth days

Quality of Life Aspects	Mean	SD	r	Pv
Physical function	17.50	3.554	0.530	0.004
Emotional function	18.32	1.874		
Social function	19.29	1.630		
School function	14.89	3.155		

Table 7 shows that the highest mean was on social function (mean= 19.29, SD= 1.63), and the lowest mean was on school function (mean= 14.89, SD=3.15). The result showed that correlation coefficient  $r=0,530$  with  $p\text{-value} = 0,004$ , which means there was a significant

relationship between the children's quality of life with family support for the sixth day.

Table 8. Correlation of supporting the family with quality of life children with cancer in seventh days

Quality of Life Aspects	Mean	SD	r	Pv
Physical function	17.18	4.800	0.583	0.001
Emotional function	18.82	1.894		
Social function	18.89	1.853		
School function	16.04	2.728		

According to table 8, the highest mean was on social function (mean= 18.89, SD= 1.85), and the lowest mean was on school function (mean= 16.04, SD=2.72). The result showed that correlation coefficient  $r=0,583$  with  $p\text{-value} = 0,001$ , which means there was a significant relationship between the children's quality of life with family support for the seventh day.

## DISCUSSION

Cancer is the most common chronic disease in children. The incident of cancer must be treated immediately. One of the treatments is chemotherapy and other supporting agents (5). During chemotherapy, Children get various side effects. Furthermore, the influence on the child's life.

The side effects generated from chemotherapy and the duration of treatment of two years or more will take affect the quality of life in children, such as physical function, emotional, social, and school function. Therefore, a supporting family is very needed for children during the treatment. The support provided by the family can be seen during the childcare process, the mother is always accompanied. A mother is a close person to

children, and is accompanied by a mother will increase the sense of comfort in children. According to Ryff (2014) that females have a good psychological well-being compared to males, so this affects the effect on ability to provide support for children with cancer is diagnosed (12). The nuclear family functions in maintenance of a safe environment both emotionally and physically, recognizing and reducing the impact of stressful events (including cancer diagnosis) and growing, parenting and encouraging the development of each family member (13).

Based on characteristics, the type of cancer is leukemia, with duration of treatment one until two years. Leukemia is a type of cancer that often occurs in children (1). ALL is a type of cancer that has a poor prognosis, and the duration of treatment is long. Therefore, children and families will focus on finishing chemotherapy.

The long chemotherapy process and side effects will affect the quality of life in children. This change occurred in the dimension of quality of life, such as school function. For seven-day follow-up, school functions have a lower value compared to other functions. The reduction of school function can cause rehospitalization in children to chemotherapy or side effects of chemotherapy, causing the child not to be present at school, difficulty in concentration, and fatigue (14). A Decrease in body resistance in children also causes concern to parents and restrictions on children's activities during treatment. This research is in line with several previous studies which show that children with cancer experience physical problems due to treatment that has an effect on their school life (8,15). Some children with cancer are often excused from attending school because they have to undergo treatment or feel tired. Thus, children often miss learning and experience a decrease in learning achievement. Even at school, children complain of difficulty concentrating and are too lazy to do homework.

In the social dimension, that has a high value during the seven days of follow-up. While undergoing treatment, children can still socialize, and their social life is not disturbed. This is because while undergoing chemotherapy for 1-2 years, children have adapted to their situation and can carry out social life. The chemotherapy phase can

influence the adaptability that the child is currently undergoing (16).

Quality of life in children from day one to seven is significantly related to family support with a positive correlation value. This shows that the higher the family support, the higher the quality of life for children. This family support is reflected in the emotional support demonstrated by the assistance provided by the family, both father and mother while the child is undergoing treatment. The results of this study are in line with Utami (2020) which states that there is a significant relationship between family support and quality of life in children with cancer undergoing chemotherapy (17).

Dalam penelitian ini, pengukuran yang dilakukan selama 7 hari berturut-turut untuk melihat dukungan keluarga dan kualitas hidup pada anak dengan kanker menjadi kekuatan sehingga dapat ditemukan bahwa fungsi sekolah memiliki nilai yang paling rendah dan fungsi sosial memiliki nilai yang paling tinggi. Oleh karena itu, perlu suatu upaya untuk meningkatkan kualitas hidup anak terutama pada dimensi sekolah yang memiliki nilai paling rendah.

In this study, the measurements were carried out for seven days follow-up to see family support and quality of life in children with cancer being a strength so that it can be found that school functions have the lowest value and social roles have the highest value. Therefore, an effort is needed to improve the quality of life for children, especially in the school dimension with the lowest score.

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**Women and Children Harapan Kita Hospital  
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