

PARENTS SELF-EFFICACY IN CHILD WITH LEUKEMIA

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ABSTRACT

Leukemia is the most common malignancy of childhood, accounting for 30% of cases of childhood cancer. The treatment for children with leukemia should be done continuously and lasts a long time, so the role of parents in supporting the treatment is very important. Confidence and ability of parents in caring for children is seen from self-efficacy. This study aimed to identify factors associated with parents self-efficacy in order to undergo leukemia treatment. The type of research was descriptive analytic. The population was parents with leukemia children. The design of this study was cross sectional with a sample size of 70 parents of children with leukemia aged 0-18 years. The results showed that 39 (58 %) parents had a moderate level of self-efficacy. There was a significant relationship between education level ($p=0.003$), economic status ($p=0.013$) and self-experience ($p=0.010$), with parental self-efficacy. Nurses can understand self-efficacy in parents and their relationship with treatment and child care.

KEYWORDS: Children, leukemia, parents, self-efficacy.

BACKGORUND

The incidence of cancer in children is increasing and has entered into the top ten most prevalent diseases in children. Based on the results of Riset Kesehatan Dasar (RISKESDAS) in 2013, the prevalence of cancer in children aged 0-14 years is around 16,291 cases each year, with an incidence rate of 30-40% for leukemia cancer (ICCC, 2021). According to WHO, the incidence of leukemia is 31.5% of all cancers in children under 15 years of age in industrialized countries and 15.7% in developing countries, including Indonesia. Data from Globocan (Global Burden of Cancer) in 2018 estimates that new cases of leukemia in Indonesia in boys aged 0-19 years are around 33.5% and girls account for 31% of all types of childhood cancer. Data on pediatric patients with leukemia in 2017-2018 were 270 children (Dharmais Hospital Childhood Cancer Registry Data, 2018).

Leukemia is a malignant disease of blood cells originating from the bone marrow. In leukemia there is a disturbance in the regulation and proliferation of leukocyte cells in an irregular and uncontrolled manner, so that their function becomes abnormal. Abnormalities that are characteristic of leukemia cells include the origin of "clusters" of cells (clonal), proliferation abnormalities, cytogenetic and morphological abnormalities, failure of

differentiation, cell markers and biochemical differences to normal cells. Acute leukemia is divided into Acute Lymphoblastic Leukemia (ALL), and Acute Myeloblastic Leukemia (AML) (Tomlinson & Kline, 2010).

The main treatment for most childhood leukemia is chemotherapy. In some children at higher risk of leukemia, high-dose chemotherapy may be given along with a stem cell transplant. The treatment protocols for leukemia are being constantly improved in terms of efficacy and long-term toxicity. Generally there are four phases in leukemia treatment: Induction, Consolidation, Reintensification, and Maintenance/ Continuing Treatment (Tomlinson & Kline, 2010).

The overall duration of treatment is usually about two to three years, with the most intense treatment in the first few months. However, chemotherapy can cause changes in physical and psychological aspects (Barkokebas et al, 2015). Psychological, physical, social and cognitive changes can occur in children with leukemia that affect the child's quality of life and child must receive leukemia treatment appropriate.

The role of parents in support treatment of children with leukemia is very important. Parents are fully responsible

and involved directly in child care, such as fulfilling basic needs and treatment of patients.

Parents are important factor in implementing family centered care for treatment and care of children with leukemia. Parents are expected to be informed regarding their child's condition and care, because the child's life depends on it family support (Duci & Tahsini, 2009).

Family support is critical in caring for a child with leukemia, despite the dramatic improvement in survival rates for children, the needs of families are enormous as they cope with serious physical illness and the fear that the child will not recover (Hockenberry, Wilson, & Rodgers, 2017).

Parents emotional reactions regarding chronic illness experienced by his child has the potential to cause post-traumatic stress syndrome and affecting their quality of life. (Chou, 2013). Caring for children with cancer or leukemia can also interfere with the quality of life of parents. The role of parents is influenced by their confidence in caring their child. Parents ability and confidence in caring for children with leukemia can be seen from parents self-efficacy (Nurhidayah, Mediani, & Rahayuwati, 2019)

Self-efficacy comes from Bandura's social cognitive theory which refers to the belief that a person has the ability to engage in behavior that leads to desired results (Huang, Wu, Zhang, Stinson, Yang, & Yuan, 2021). Self-efficacy is defined as belief in one's ability to succeed, which can predict, moderate, and mediate health behavior change (Emerson, et al., 2018). Parents self-efficacy can influence children and the environment to produce positive development (Oktaviani & Allenidekania, 2020).

Parents self-efficacy of children with cancer is related to the belief that they have the ability to carry out the expected actions (Nurhidayah, Mediani, & Rahayuwati, 2019). Increased ability to care for children with leukemia along with increased parental self-efficacy, is associated with a number of health improvements, including medical or treatment compliance and health literacy, reduced disease activity, and increased positive health behaviors across a variety of patient populations and disease types, including cancer (Emerson, et al., 2018).

Factors that influence self-efficacy are enactive mastery experience, vicarious experience, verbal persuasion. Other factors that influence self-efficacy are cultural factors through values, beliefs, and self-regulation processes which function as a source of self-efficacy assessment and as a consequence of self-efficacy beliefs (Efendi, 2013)

Bandura (1997) said that the level of a person's self-efficacy in each task varies greatly and can also be

influenced by gender, age, education level, culture, the nature of the task at hand, external incentives, and the individual's status or role in the environment. Research by Alves, Guirardello, & Kurashima (2013) shows that there is a significant relationship between parents levels of stress, anxiety and quality of life and parental self-efficacy in undergoing treatment for their children. The quality of life of children with leukemia during treatment also needs to be considered. Parental support can improve a child's quality of life.

Nurses have a role as supporters to provide emotional support to parents and help families develop coping strategies to manage the impact of the conditions and treatment undergoing children with cancer (Glasper, Coad, & Richardson, 2015)

Nurses also have a role as educators to provide teaching to families regarding skills for caring for children with leukemia. The nurse must ensure that information is conveyed to the family in a way that is easy to understand. This information becomes the basis for decision making and helps reduce stress, anxiety and feelings of helplessness in parents. Therefore, nurses have an important role in parents' self-efficacy when caring for children with leukemia.

Knowing parents self-efficacy managing their children's health conditions may be an important step in supporting their children's health but no single measure is available for diverse sets of conditions. This study aims to determine factors related to self-efficacy in parents of children with leukemia in Dharmais Cancer Hospital.

METHODS

This research is a quantitative descriptive with design uses cross sectional to find out description of self-efficacy in parents who have leukemia children undergoing treatment and the relationship between independent variables from sources of self-efficacy, factors internal parents, and factors external with the dependent variable self-efficacy of parents. Total of 70 respondents filled out the questionnaire from Mei to October 2023.

Instruments used in this study is questionnaire Islamic sources of self-efficacy (2018) which measures experience self, model observation, persuasion verbal, as well as physiological conditions and emotional. Self Efficacy questionnaire using the Instrument Self Efficacy for Parenting Task Index (SEPTI) developed by Coleman & Karraker (2000), that has been adapted into language Indonesia.

RESULTS

Characteristics of parents according to age group, the majority of parents are categorized as late adulthood (42.9%). Most parents were married (97.1%) and others were single parents (2.9%). The economic status of

parents is having a monthly income that is higher than the regional minimum wage (77.1%).

The characteristics of children with leukemia based on age and phase of leukemia chemotherapy, see on table 1

Table 1: Characteristics of Children with Leukemia based on Age and Phase of Therapy (n= 70).

Variable	n	Percentage (%)
Child Age		
Toddler Age (1-5 years old)	19	27,1
Childhood (5-10 years)	38	54,3
Adolescents (10 – 18 years)	13	18,6
Therapy Phase		
Induction Phase	30	43%
Consolidation Phase	11	16%
Maintenance Phase	29	41%

Description of self-efficacy of parents with leukemia children at Dharmais Cancer Hospital based on sources of parental efficacy (i.e. self-experience, model

observation, verbal persuasion, and physiological and emotional states) is depicted on table 2.

Table 2. Sources of Self-Efficacy for Parents with children with leukemia at Dharmais Cancer Hospital (n=70)

Variable	n	Percentage (%)
Self Experience		
- Negative	30	42,9%
- Positive	40	57,1%
Model Observation		
- Negative	34	48,6
- Positive	36	51,4
Verbal Persuasion		
- Negative	31	44,3
- Positive	39	55,7
Physiological and Emotional State		
- Low	2	2,9
- Moderate	54	77,1
- High	14	20

^a Dependent t test (p value < 0,05); ^b Wilcoxon test (p value < 0,05)

This research shows that parents of children with leukemia receive very high support from the family in caring for their children (55,7%) and from parents support group (61,4%).

This study used bivariate analysis to describe the relationship between each independent variable and the dependent variable. The result shows that there is a significant relationship between the level of parents education, economic status, and parents self-experience to the level of parents self-efficacy of children with leukemia p value <0.05.

The self-efficacy level of parents who have children with leukemia at Dharmais Cancer Hospital mostly have a moderate level of self-efficacy (55.7%), and others have low (22.9%) and high (21.4%) self-efficacy.

Table 3. Relationship between Internal Factors (Age, Gender, Education, Marital Status, and Economic Status) to Parental Self-Efficacy Level (n=70).

Variable	Self-Efficacy of Parents of Children with Leukemia			Sig
	Low	Moderate	High	
	n (%)	n (%)	n (%)	
Internal Factors (parental characteristics)				
Age				
Late teens	1 (100.0)	0 (0.0)	0 (0.0)	0.176
Early adulthood	5 (18.5)	19 (70.4)	3 (11.1)	
Late adulthood	6 (20.0)	16 (53.3)	8 (26.7)	
Early Elderly	4 (33.3)	4 (33.3)	4 (33.3)	

Sex				
Male	3 (17.6)	8 (47.1)	6 (35.3)	0.275
Female	13 (24.5)	31 (58.5)	9 (17.0)	
Education				
Basic education	7 (70.0)	1 (10.0)	2 (20.0)	0.003*
Secondary education	5 (16.7)	18 (60.0)	7 (23.3)	
Higher education	4 (13.3)	20 (66.7)	6 (20.0)	
Marital status				
Married	15 (22.1)	38 (55.9)	15 (22.1)	0.572
Single parent	1 (50.0)	1 (50.0)	0 (0.0)	
Economic Status				
Less than regional minimum wage	8 (50.0)	6 (37.5)	2 (12.5)	0.013*
More than the regional minimum wage	8 (14.8)	33 (61.1)	13 (24.1)	

Table 4. The Relationship Internal Factors (Family Support, Group Support) to Parental Self-Efficacy Level (n=70).

Variable	Self-Efficacy of Parents of Children with Leukemia			Sig
	Low n (%)	Moderate n (%)	High n (%)	
External Factors				
Family support				
No support	4 (28.6)	5 (35.7)	5 (35.7)	0.224
Quite supportive	2 (11.8)	13 (76.4)	2 (11.8)	
Strongly support	10 (25.6)	21 (53.8)	2 (11.8)	
Group Support				
Low	6 (22.2)	16 (59.3)	5 (18.5)	0.869
Higher	10 (23.3)	23 (53.5)	10 (23.3)	

Table 5. The Relationship Sources of Self-Efficacy (Parents Self-Experience, Model Observations, Verbal Persuasion, Physiological and Emotional Conditions) To Parental Self-Efficacy Level (N=70).

Variable	Self-Efficacy of Parents of Children with Leukemia			Sig
	Low n (%)	Moderate n (%)	High n (%)	
Sources of Self-Efficacy				
Parents Self-Experience				
Negative	12 (40.0)	12 (40.0)	6 (20.0)	0.010*
Positive	4 (10.0)	27 (67.5)	9 (22.5)	
Model Observations				
Negative	10 (29.4)	17 (50.0)	7 (20.6)	0.438
Positive	6 (16,7)	22 (61,1)	8 (22.2)	
Verbal Persuasion				
Negative	7 (22.6)	16 (51.6)	8 (25.8)	0.716
Positive	9 (23.1)	23 (59.0)	7 (17.9)	
Physiological and Emotional Conditions				
Low	1 (50.0)	0 (0.0)	1 (50.0)	0.073
Mild	14 (25.9)	32 (59.3)	8 (14.8)	
High	1 (7.1)	7 (50.0)	6 (42.9)	

DISCUSSION

The majority of parents with male gender or fathers in this study have a moderate level of self-efficacy, as do parents with female gender or mothers. However, there is no relationship between parental gender and efficacy level (p = 0.27. Research by Chen, Peng, Xu, & Yin

(2020) also shows that gender does not have a significant relationship with self-efficacy (p = 0.819).

The role of parents, either father or mother, is very important in the care of children with leukemia. Parents will determine the continuation of treatment for children diagnosed with cancer (Handian, Maria, &

Samtyaningsih, 2018). Saraswati, Nurhidayah, & Lukitasari (2018) state that children with cancer need long-term care involving the role of parents.

In terms of age, the age of parents with a moderate level of self-efficacy is mostly in early adulthood (70.4%). According to Putri (2018), early adulthood is a phase of self-adjustment to new patterns of life and social expectations. In the early adulthood phase, cognitively there is an increase in rational thinking patterns.

There is a significant relationship between parents economic status and parents self-efficacy level with leukemia child ($p=0.013$). This study in line with research by Han, Chu, Song, & Li (2015) that found economic status significantly positively correlated with a person's level of self-efficacy.

Knowledge is closely related to a person's self-efficacy, the higher a person's level of knowledge, the higher the individual's self-efficacy. Knowledge is a factor that can influence a person's self-efficacy. The higher the level of education, the easier it is to receive information, thus affecting the knowledge gained (Dharmawati, 2016). Majority of respondents in this study have completed secondary and higher education. This study shows that there is a significant relationship between education level and self-efficacy of parents of children with leukemia ($p=0.003$).

Harper et al (2013) explained that parents who have high efficacy can properly carry out the role of caring for children in various difficulties, such as when children complain of various side effects from the treatment or chemotherapy they are undergoing and are able to carry out their role in a wider scope. Nurhidayah, Mediani, and Rahayuwati (2019) also explained that high self-efficacy in parents will cause a sense of confidence in themselves to care for children while undergoing chemotherapy, and be able to overcome the side effects experienced by children both before and after chemotherapy. This will affect what actions will be taken to improve the quality of life and healing process of children with leukemia.

CONCLUSION

This study shows that characteristics of parents are categorized as late adulthood (42.9%). Most parents were married (97.1%). The economic status of parents is having a monthly income that is higher than the regional minimum wage (77.1%). The characteristics of children with leukemia are childhood age and most of them on induction phase of leukemia chemotherapy. The self-efficacy level of parents who have children with leukemia at Dharmais Cancer Hospital mostly have a moderate level of self-efficacy (55.7%). There is a significant relationship between the level of parents education, economic status, and parents self-experience to the level of parents self-efficacy of children with leukemia p value <0.05 . Nurses need to educate to

parents about self-confidence, self-efficacy and impact on child treatment with leukemia.

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