

Available online on 15.10.2022 at <http://ajprd.com>

# Asian Journal of Pharmaceutical Research and Development

Open Access to Pharmaceutical and Medical Research

© 2013-20, publisher and licensee AJPRD, This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited

Open  Access

Research Article

## Mother's Self-Efficacy in Caring for Children with Cancer

**Fenti Hasnani**

Department of Nursing, Health Polytechnic of Jakarta I, Indonesia

### ABSTRACT

Cancer is the main cause of death in children in Indonesia. Childhood cancer is cancer that attacks children under 18 years old, including children who are still in the womb. Mothers play a major role in the process of child development. This study aims to identify the mother's self-efficacy in the care of children with cancer. This study uses a quantitative descriptive design. Maternal self-efficacy data was collected using a mother's self-efficacy questionnaire in carrying out treatment for cancer children modified from Bandura's Theory. The questionnaire used a Likert scale and data collection was carried out from February to July 2022 with 118 respondents who were mothers of children with cancer. The results show that mothers who have high self-efficacy will have high ability or confidence in caring for children with cancer, so they can accompany children in the process of child care, treatment, and healing. The mother's role is very important in determining the success rate of the treatment process and the survival of children with cancer.

**Key words:** Mother's role, self-efficacy, children, cancer.**ARTICLE INFO:** Received 19 April 2022; Review Complete 13 July 2022; Accepted 30 Sept. 2022; Available online 15 Oct. 2022**Cite this article as:**

Hasnani F, Mother's Self-Efficacy in Child Care for Cancer, Asian Journal of Pharmaceutical Research and Development. 2022; 10(5):06-09.

DOI: <http://dx.doi.org/10.22270/ajprd.v10i5.1172>

\*Address for Correspondence:

Fenti Hasnani, Department of Nursing, Health Polytechnic of Jakarta I, Indonesia

### INTRODUCTION

Cancer is a deadly disease that can affect anyone, including children. Cancer is the leading cause of death in children and adolescents aged 0-19 years. Every year, an estimated 400,000 children and adolescents aged 0-19 years suffer from cancer. The most common types of childhood cancer include leukemia, brain cancer, lymphoma, and solid tumors, such as neuroblastoma and Wilms tumor.<sup>1-3</sup>

In high-income countries, where comprehensive services are generally accessible, more than 80% of children with cancer recover. In low and middle-income countries, less than 30% recover. The prevalence of cancer in children in Indonesia is around 2-4%. Every year there are about 11,000 children diagnosed with cancer, 10% of whom die.<sup>4-6</sup>

Estimates that there are 8,677 Indonesian children aged 0-14 years suffering from cancer in 2020. This number is the largest compared to other countries in Southeast Asia.

Among the many types of cancer, there is a type of cancer that often affects children.<sup>7,8</sup>

Childhood cancer is cancer that attacks children under 18 years old, including children who are still in the womb. There are 6 types of cancer that often attack children. These cancers are leukemia, retinoblastoma, osteosarcoma, neuroblastoma, malignant lymphoma, and nasopharyngeal carcinoma. Leukemia is the highest cancer in children (2.8 per 100,000), followed by retinoblastoma (2.4 per 100,000), osteosarcoma (0.97 per 100,000), malignant lymphoma (0.75 per 100,000), nasopharyngeal carcinoma (0.43 per 100,000) and neuroblastoma (10.5 per 1,000,000).<sup>9,10</sup>

The role of parents is very important in determining the success rate of treatment and the survival rate of children with cancer. Implementation of family-centered care is influenced by the belief in self-efficacy of parents. Self-efficacy is a person's confidence related to his competence or effectiveness in a particular area. In its application, the theory of self-efficacy proposed by Albert Bandura can easily be applied in various fields of life. In the field of

developmental psychology, this theory is easy to apply because it is in line with other theories.<sup>11-13</sup>

Erikson's developmental theory, where in the stages of development of the human personality there are psychosocial crises that must be passed (a person will be able to reach self-maturity after being able to resolve crises at each stage of development), then the theory of self-efficacy which states the importance of the role of mastery experience can be applied easily in child care.<sup>14,15</sup>

Mothers of children with cancer are recommended to accompany and provide support to children in various ways to communicate honestly, tell children about the cancer they have and the treatment that will be taken so that children are not confused and afraid, help children explore new activities, do not isolate children and assist during treatment.<sup>16,17</sup>

## METHODS AND MATERIALS

This study uses a quantitative descriptive design which is intended to describe the self-efficacy of mothers in undergoing treatment for children with cancer. The sample in this study was conducted by consecutive sampling. The inclusion criteria used were biological mothers with children with cancer diagnosed from January 2017 – February 2021, children suffering from cancer for at least 1 year, mothers in good health, domiciled in Depok and willing to be respondents. The exclusion criteria included

the mother refusing to continue/participating as the respondent and the mother being sick. This research was conducted in the Health Service area of Depok, West Java. There were 118 mothers of children with cancer who were willing to participate in the research activities. This research was conducted during February – July 2022. This research adheres to ethical principles, namely self-determination, anonymity and confidentiality, protection from discomfort, benefit and justice.

Data collection on maternal self-efficacy was obtained by using a mother's self-efficacy questionnaire in carrying out treatment for cancer children modified from Bandura's Theory. The self-efficacy questionnaire in this study used a Likert scale. The questionnaire was developed based on Bandura's theory which includes three dimensions of self-efficacy, namely magnitude, strength, and generality. Validity test was conducted on 24 respondents. The self-efficacy instrument was declared valid with t-count values ranging from 0.522 to 0.891; and the reliability test value > 0.600 so that this instrument is also declared reliable. Data analysis used univariate analysis with the aim of analyzing research variables descriptively. Descriptive analysis was conducted to describe the respondent's characteristics and mother's self-efficacy. The results of the analysis are presented in the form of frequency and percentage.

## RESULTS

**Table 1.** Frequency distribution of characteristics of children with cancer

Variable		f	%
Gender	Boys	77	65.25
	Girls	41	34.75
Age	0-5years	58	49.15
	6-12years	19	16.10
	13-19 years	41	34.75
Cancer Diagnosis	Acute Limfoblastic Leukemia	59	50.00
	Acute Myeloblastic Leukemia	32	27.12
	Retinoblastoma	13	11.02
	Limfoma Maligna	7	5.93
	Osteosarcoma	5	4.24
	Karsinoma Nasopharing	2	1.69
First Time Diagnosed with Cancer	2017	11	9.32
	2018	22	18.64
	2019	19	16.10
	2020	26	22.03
	2021	40	33.90
Current treatment	Chemotherapy	111	94.07
	Radiotherapy	7	5.93

**Table 2:** Frequency distribution of characteristics mothers of children with cancer

Variable		f	%
Age	< 20years	7	5.93
	20-40years	74	62.71
	> 40 years	37	31.36
Work	Government employees	8	6.78
	Entrepreneur/Trader	37	31.36
	Not Working	73	61.86
Education	Bachelor	78	66.10
	Senior high school	36	30.51
	Junior High School	4	3.39
Monthly Family Income	< 1 million	14	11.86
	1-5 million	61	51.70
	5-10 million	26	22.03
	> 10 million	17	14.41
Culture	Sundanese	73	61.86
	Javanese	34	28.81
	Etc	11	9.32
Obedience to carry out religious obligations	Obey	78	66.10
	Disobedient	40	33.90
The one who most often accompanies children during treatment	Mother	61	51.70
	Father	17	14.41
	Mother&Father	26	22.03
	Grandma or other family	11	9.32
	Not family	3	2.54

**Table 3:** Mother's Self-Efficacy in Caring for Children With Cancer

Self-Efficacy	frequency	%
High	82	69.49
Low	36	30.51

## DISCUSSION

According to WHO, a child is a person in the womb up to the age of 19 years. According to the Law of the Republic of Indonesia number 23 of 2002 article 1 paragraph 1 concerning child protection, a child is someone who is not yet 18 years old, including those who are still in the womb. Children are national assets that will continue the struggle of a nation, so their growth and development must be considered.<sup>18,19</sup>

The realization of Indonesian children who are healthy, grow and develop, are bright, cheerful, have noble character and are protected from discrimination, exploitation and

violence and actively participate in a national policy called the National Program for Indonesian Children 2015.

Seen in table 1, it shows that the majority of cancers occur in children aged 0-5 years as many as 58 (49.15%) children. The majority of cancer cases occurred in children with male sex as many as 77 (65.25%) children. The majority of cancer diagnoses in children in this study were ALL (Acute Lymphoblastic Leukemia) blood cancer in 59 (50%) cases. Furthermore, the majority of children included in this study were diagnosed in 2021 as many as 40 (33.90%) children, and at the time of this study the majority were undergoing chemotherapy treatment as many as 111 (94.07%) children.

Data from collaborative research from various countries suggest that the highest percentage of pediatric cancers is found in children aged 0–4 years. Similarly, data from Switzerland show that the highest prevalence of pediatric cancer is in children aged 1–4 years (36%), followed by children aged 5–9 years and children aged 10–14 years. Child cancer data in the United States shows that the proportion of the age group with the most cancer is 0–14 years. This shows that twice as many children aged 0–14 years have cancer compared to adolescents aged 15–19 years (Zhu, Pickle, Zou, & Cucinelli, 2014). data from Egypt shows that 44% of children aged 0–4 years suffer from cancer, followed by 26% of children aged 9–15 years and 22% of children aged 5–8 years.<sup>20–22</sup>

The most important period of child development is toddlerhood. In toddlerhood there is a basic growth that will determine the next child's development. Developments in this period occur very quickly such as the development of language skills, creativity and intelligence which will become a very important foundation for the further development of children.<sup>23,24</sup>

The results of this study indicate that the majority of children suffering from cancer are male. The results of this study are in line with research conducted in the United States which showed that the incidence and mortality of pediatric cancer in boys was higher than in girls, while the survival rate was the same for both sexes. The same thing is shown in India, where the incidence of cancer in boys in India is higher than in girls. The incidence of childhood cancer is 235.30 per one million population in boys and 152.30 per one million population in girls in Delhi.<sup>25</sup>

The majority of cancer cases in this study were ALL (Acute Lymphoblastic Leukemia) as many as 59 (50%) cases. This is in line with the incidence of leukemia in South and Southeast Asia. This type of cancer was also dominant in CCRP studies, particularly acute lymphoblastic leukemia. The worldwide incidence of leukemia has increased by 3% annually between 1992 and 2013, largely due to the increase in ALL (Acute Lymphoblastic Leukemia) in White Hispanic children.<sup>26,27</sup>

The number of childhood cancers continues to increase. Data from the World Health Organization (WHO) states that the cure rate for childhood cancer reaches 80% in high-income countries, where comprehensive services for treating childhood cancer can be accessed. While in middle and low income countries (Low Middle Income Country) only reached 20%. The attention of various parties, mapping of problems and the application of appropriate strategies are needed to increase the life expectancy of children with cancer.

The results showed that the majority of cancer treatment underwent chemotherapy for 111 (94.07%) children. Chemotherapy is the primary treatment used by children to treat cancer. There are various types of chemotherapy drugs that are given with a certain protocol tailored to the type of cancer experienced by children.<sup>28</sup>

The sad thing is that more than 50% of cancer cases in children who come to health facilities are already in an advanced stage. The lack of parental education and knowledge about cancer is one of the causes of cancer

suffered by children in advanced stages. Whereas if it can be detected early, cancer in children can be cured with good treatment and therapy.

Table 2 shows that the majority of maternal age in this study were 20–40 years as many as 61 (51.70%) people, the majority did not work or worked precariously as many as 71 (61.86%) people, the majority graduated from undergraduate 87 (66.10%) people, the majority of family income is 1–5 million per month as many as 61 (51.70%) people, the majority are Sundanese 73 (61.86%) people, the majority are obedient to their religion as many as 78 (66.10%) people and the majority of child companions during treatment were mothers as many as 61 (51.70%) people.

The majority of mothers in this study were aged 20–40 years as many as 61 (51.70%) people, which were included in early adulthood. Early adulthood or also called young adulthood is a period of transition from adolescence to emerging adulthood, namely the age period of 20 to 40 years, where in this age range the individual experiences a period of transition, both physically (physical transition), intellectual transition (cognitive transition), and social role transition. A mother who is in the young adult age range experiences many progressive changes physically, cognitively, and psychosocio-emotionally, which aims to lead to a more mature and wise personality integration. Self-efficacy is a model of health beliefs as a useful tool in predicting the degree to which individuals are likely to play an active role in the health care of themselves and others. In this case, the mother's ability and belief in caring for children with cancer can be seen from the high self-efficacy that mothers have in caring for children with cancer.<sup>29,30</sup>

The majority of mothers in this study were not working or working precarious as many as 71 (61.86%) people with a family income of 1–5 million per month as many as 61 (51.70%) people. Cancer tends to go undiagnosed in low-income countries due to lack of awareness or lack of diagnostic equipment. Social factors also affect the awareness of the population. This population group that is more concerned with socio-economic needs than health needs is a challenge for health workers. Cancer tends to go undiagnosed in low-income countries because of a lack of awareness or because diagnostic tools are not available. Social factors also affect the awareness of the population. This population group that is more concerned with socio-economic needs than health needs is a challenge for health workers.<sup>2</sup>

The majority of respondents in this study took high school education as many as 13 people (40.6%). In parenting, parental self-efficacy is a variable that can be used to predict what parenting style will be applied by parents, whether it is an overreacting parenting style (hard discipline) or an inattentive parenting style (discipline that is less consistent and giving too much freedom).<sup>31</sup> Cancer can attack children from infancy to the age of 19 years. Cancer in children is different from cancer in adults. If cancer in adults can be prevented, while cancer in children until now there is no prevention that can be done. However, healthy lifestyles and eating patterns must still be taught from a young age, so that when children grow up, they can



avoid the risks of cancer caused by an unhealthy lifestyle.<sup>31,32</sup>

The majority of mothers in this study were Sundanese 73 (61.86%) people. Culture affects self-efficacy through values, beliefs and self-regulatory processes that function as sources of self-efficacy assessment and also as a consequence of the belief in self-efficacy.<sup>13</sup> Someone who has the belief that they can engage in it is likely to engage in certain behaviors, it happens when they have high self-confidence. Self-confidence influences their choice of activities, goals, efforts, and persistence in class activities. Feelings of self-confidence influence their choice of activities, goals, effort and persistence in activities. The Sundanese view of life is a concept that is owned by a person or group in a society that intends to respond and explain all the problems of life in this case when a family member is sick.

The majority of mothers in this study were mothers who were obedient to their religion as many as 78 (66.10%) people. According to Bandura, self-efficacy in each individual will differ from one individual to another based on three dimensions. One of the dimensions that distinguishes it is the dimension of strength. This dimension relates to the level of strength of the individual's beliefs or expectations about his abilities. Weak expectations are easily shaken by unsupportive experiences. On the other hand, steady expectations encourage individuals to stay in their business.<sup>13</sup>

Research on mother's self-efficacy in child cancer treatment shows that most mothers in child cancer treatment have high self-efficacy as many as 82 (69.49%) people and mothers who have low self-efficacy as many as 36 (30.51%) people. This shows that mothers with children with cancer in this study have a high ability or confidence in caring for children with cancer. So that they can assist children in undergoing the process of child care, treatment, and healing.

The impact of chemotherapy on children is important to study as an early detection of physical and psychological changes, and can be a preventive measure for complications or other side effects. Assessment needs to be asked of the child and parents. However, children sometimes find it difficult to explain their feelings and what they are experiencing. Therefore, assessment of parents, especially mothers, is considered to be easier and more effective because so far mothers (parents) have become a bridge between children and health workers.<sup>33,34</sup>

## CONCLUSIONS

Cancer in children is a complex problem because the care and treatment takes a long time and requires the active involvement of the health team and parents, especially mothers. The role of mothers for children with cancer is very important. Mothers need to know how to accompany and deal with children physically and psychologically. This is to prevent confusion in the child when undergoing treatment and despair when he finds out his condition. Children find it difficult to describe the complaints or clinical symptoms that are felt. In fact, from these complaints, the detection of the child's disease can be easier to do so that they can find out the appropriate treatment

method. Mothers as people who are considered closest to their children are encouraged to be more sensitive to recognize the various symptoms of cancer experienced by their children and support children in the process of undergoing treatment. Mothers must know how to accompany and treat cancer in children, both physically and psychologically. Psychosocial support is very important for children with cancer and their families. The family and community environment must jointly provide positive support for children with cancer so that they can live their lives better.

## ACKNOWLEDGMENTS

The authors would like to thank all who participated in this study.

## CONFLICT OF INTEREST

The authors declare that they have no conflict interests.

## REFERENCES

1. Pritchard-Jones K, Pieters R, Reaman GH, Hjorth L, Downie P, Calaminus G, et al. Sustaining innovation and improvement in the treatment of childhood cancer: lessons from high-income countries. *Lancet Oncol*. 2013;14(3):e95–103.
2. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Bray F, et al. International incidence of childhood cancer, 2001–10: a population-based registry study. *Lancet Oncol*. 2017;18(6):719–31.
3. Smith MA, Seibel NL, Altekruse SF, Ries LAG, Melbert DL, O'Leary M, et al. Outcomes for children and adolescents with cancer: challenges for the twenty-first century. *J Clin Oncol*. 2010;28(15):2625.
4. Israeli S, Rechavi G. Cancer in children: an overview. *Pediatr Psycho-Oncology Psychosoc Asp Clin Interv*. 2012;1–6.
5. Hopkins J, Burns E, Eden T. International twinning partnerships: an effective method of improving diagnosis, treatment and care for children with cancer in low-middle income countries. *J Cancer Policy*. 2013;1(1–2):e8–19.
6. Hendrawati S, Nurhidayah I, Mardhiyah A. Self-Efficacy Parents in Undergoing Child Cancer Treatment at the Rumah Kanker Anak Cinta Bandung. *NurseLine J*. 2019;4(1):37–45.
7. Noti S. Peran Yayasan Kasih Anak Kanker Indonesia terhadap Anak Penderita Kanker 2006-2018. Universitas Diponegoro; 2020.
8. Ward E, DeSantis C, Robbins A, Kohler B, Jemal A. Childhood and adolescent cancer statistics, 2014. *CA Cancer J Clin*. 2014;64(2):83–103.
9. Rose SR, Horne VE, Howell J, Lawson SA, Rutter MM, Trotman GE, et al. Late endocrine effects of childhood cancer. *Nat Rev Endocrinol*. 2016;12(6):319–36.
10. Kaatsch P. Epidemiology of childhood cancer. *Cancer Treat Rev*. 2010;36(4):277–85.
11. Nurhidayah I, Mediani HS, Rahayuwati L. Analyzing Factors related to Parents' Self Efficacy with Children's Cancer Treatment. *J Nurs Care*. 2019;2(2).
12. Woolfolk A, Margetts K. Educational Psychology Australian Edition. Pearson Higher Education AU; 2012.
13. Bandura A. Regulative function of perceived self-efficacy. In: *Personnel selection and classification*. Psychology Press; 2013. p. 279–90.
14. Gross Y. Erikson's stages of psychosocial development. *Wiley Encycl Personal Individ Differ Model Theor*. 2020;179–84.
15. Marcia J, Josselson R. Eriksonian personality research and its implications for psychotherapy. *J Pers*. 2013;81(6):617–29.
16. Coyne I, Amory A, Gibson F, Kiernan G. Information-sharing between healthcare professionals, parents and children with cancer:

- more than a matter of information exchange. *Eur J Cancer Care (Engl)*. 2016;25(1):141–56.
17. Holmberg P, Nilsson J, Elmqvist C, Lindqvist G. Nurses' encounters with children as next of kin to parents with a cancer diagnosis on oncology wards. *Nord J Nurs Res*. 2020;40(1):33–40.
  18. Bahroni A, Sari AG, Widayati SC, Sulisty H. Dispensasi Kawin Dalam Tinjauan Undang-Undang Nomor 23 Tahun 2002 Juncto Undang-Undang Nomor 35 Tahun 2014 Tentang Perlindungan Anak. *Transparansi Huk*. 2019;2(2).
  19. Sulistiani W, Mahastuti D, Mustami'ah D. Psikologi Pendidikan dan Perkembangan Terapan Menyusun Pembelajaran Moral Mengarang Cerita Untuk Anak Usia Taman Kanak-kanak. Sepilar; 2018.
  20. Mitter VR, Michel G, Strippoli M-P, Rüegg CS, Rebholz C, Feller M, et al. Swiss Childhood Cancer Registry: Annual Report 2009/2010. 2011;
  21. El Malla H, Kreicbergs U, Steineck G, El Sayed Elborai Y, Wilderäng U, Ylitalo Helm N. Advances in pediatric oncology-a five-year nation-wide survival follow-up at Children's Cancer Hospital in Egypt. *J Psychol Clin Psychiatry*. 2017;7(4):1–8.
  22. Zhu L, Pickle LW, Zou Z, Cucinelli J. Trends and patterns of childhood cancer incidence in the United States, 1995–2010. *Stat Interface*. 2014;7(1):121–34.
  23. Diana FM. Pemantauan perkembangan anak balita. *J Kesehat Masy Andalas*. 2010;4(2):116–29.
  24. Uce L. The golden age: Masa efektif merancang kualitas anak. *Bunayya J Pendidik Anak*. 2017;1(2):77–92.
  25. Bashar MDA, Thakur JS. Incidence and pattern of childhood cancers in India: findings from population-based cancer registries. *Indian J Med Paediatr Oncol*. 2017;38(02):240–1.
  26. Isaevska E, Manasievska M, Alessi D, Mosso ML, Magnani C, Sacerdote C, et al. Cancer incidence rates and trends among children and adolescents in Piedmont, 1967–2011. *PLoS One*. 2017;12(7):e0181805.
  27. Barrington-Trimis JL, Cockburn M, Metayer C, Gauderman WJ, Wiemels J, McKean-Cowdin R. Trends in childhood leukemia incidence over two decades from 1992 to 2013. *Int J cancer*. 2017;140(5):1000–8.
  28. Hockenberry MJ, Wilson D. Wong's nursing care of infants and children-E-book. Elsevier Health Sciences; 2018.
  29. Santrock JW. Life-Span Development Edisi Bahasa Indonesia. Jakarta: Erlangga. 2012;
  30. Salvador Á, Crespo C, Barros L. The benefits of family-centered care for parental self-efficacy and psychological well-being in parents of children with cancer. *J Child Fam Stud*. 2019;28(7):1926–36.
  31. Jago R, Wood L, Zahra J, Thompson JL, Sebire SJ. Parental control, nurturance, self-efficacy, and screen viewing among 5-to 6-year-old children: a cross-sectional mediation analysis to inform potential behavior change strategies. *Child Obes*. 2015;11(2):139–47.
  32. Rock CL, Thomson C, Gansler T, Gapstur SM, McCullough ML, Patel A V, et al. American Cancer Society guideline for diet and physical activity for cancer prevention. *CA Cancer J Clin*. 2020;70(4):245–71.
  33. Pöder U, Ljungman G, von Essen L. Parents' perceptions of their children's cancer-related symptoms during treatment: a prospective, longitudinal study. *J Pain Symptom Manage*. 2010;40(5):661–70.
  34. Alfano CM, Leach CR, Smith TG, Miller KD, Alcaraz KI, Cannady RS, et al. Equitably improving outcomes for cancer survivors and supporting caregivers: a blueprint for care delivery, research, education, and policy. *CA Cancer J Clin*. 2019;69(1):35–49.

