

## Nutritional Status and Development of Children with Cancer



Sudiyati<sup>1</sup>, Masita<sup>2</sup>, Rasumawati<sup>3</sup>, Ida Ayu Indira Dwika Lestari<sup>4</sup>

<sup>1,2,3</sup>Department of Midwifery, Health Polytechnic Jakarta I, Jakarta, Indonesia

<sup>4</sup>Faculty of Public Health, Universitas Mulawarman, Samarinda, Kalimantan Timur, Indonesia

**ABSTRACT:** Cancer is one disease with number high mortality. Global action data against cancer WHO (World Health Organization) stated that death consequence cancer can reach figure 45% of the years 2007 to 2030, that is around 7.9 million to 11.5 million cases of death. In Indonesia, according to report Risked as prevalence cancer reached 4.3 per 1000 population and became reason death number seven (5.7%) after stroke, tuberculosis, hypertension, trauma, perinatal and diabetes mellitus. In developing countries, cancer is reason main death caused by disease in children on age six month. M though cancer Still seldom found happens to groups age child or Still about 2-6%, however cancer is disease degenerative disease that causes 10% of deaths in children.

**Purpose:** Research This For determine the nutritional status of children sufferer cancer and development child sufferer cancer use KPSP form during the treatment period as well as factor what is related with incident cancer in children.

**Method:** This study use design study descriptive qualitative. Population study is suffering child cancer at home by the Indonesian Cancer Child Care Foundation (YKAKI). A sample of 9 children who suffer cancer at the Indonesian Cancer Child Care Foundation (YKAKI). Data collected with use questionnaire, sheet observation and guidance interview. Data analyzed in a manner Qualitative based on results observation and interview.

**Result:** research in getting normal nutritional status, while development only part get small delay.

**Conclusion:** Interview results show part big family No recognize symptoms and signs cancer, family feel burden adequate physical and psychological heavy, besides obtained problem psychology in children sufferer cancer because factor long treatment and care. It socialized symptoms and signs cancer in children so that can done detection early cancer child and get done handling more fast and precise as well as comprehensive.

**KEYWORDS:** Cancer, Children, Nutritional Status, Development

### I. INTRODUCTION

Statistical data official from IARC (International Agency for Research on Cancer) stated that 1 in 600 children will suffer cancer before 16 years old . Disease cancer in children need handling with expertise , facilities and infrastructure special . If cancer befalls the child , then will is complex load No only for parents but also to his siblings, doctors, nurses, schools and the community as well as environment. (1)

Every Indonesian child is suffering cancer entitled obtain maintenance as well as the best possible treatment For maintain, improve health, protect from threat disease and prevention risk happen disease, have Lots carried out by various circles Good government nor party society.

Implementation gift drug chemotherapy and monitoring progress treatment in a manner routine cause child must visited several times and was cared for at home sick. Sick and hospitalized, sick is engendering situation crisis in children. Crisis in a child being cared for at home Sick caused Because child experience stress consequence change, fine on health status nor environment and habits daily; while on the other hand children own limitations in mechanism coping For overcome problem nor characteristic events pressing. Ability child For respond to stressor depending on age and level grow flower children. (2)

Between various stressors faced by children consequence the disease experienced, the child also has stage grow a must flower achieved in accordance with age them. Child can grow and develop normally when supported by the environment biological, physical and psychosocial. Availability nutrition , susceptibility to disease , condition environment influences ability child reach grow flower optimal child . Aspect psychosocial from interpersonal relationships , stress and coping in children also participate influence grow flower children. (3)

## Nutritional Status and Development of Children with Cancer

Grow flower a child influenced by various condition , good from in child, that alone nor condition environment surrounding. For reach optimal growth and development, then need base child must fulfilled , includes need physical need emotion and need stimulation or education.

In Indonesia especially in Jakarta only because treatment cancer is treatment need time, cost and means sophisticated infrastructure, so only There is a number of facility health or serving hospital treatment cancer. And in general, is hospital whereas for the treatment period not only very However must many times and regularly. The Indonesian Cancer Child Care Foundation is one of them institution accommodating social sufferer cancer during the treatment period, or as House helpful stop sufferer cancer and family during child undergo treatment, where they still can play, learn and earn care, good nutrition For child sufferer cancer. In one day YKAKI can accommodate more of 30 children sufferer moderate cancer undergo treatment.

## II. METHOD AND MATERIAL

Study This use method study descriptive qualitative. Study qualitative is focused research describe phenomena (concepts) in the social world from perspective individual who has experience in the social world. (4)

Principle taking sample in study qualitative is achievement data saturation example amount participant in study This is 9 people because already there is data saturation. In this research, researcher choose informants/participants For become data sources and know problem in a manner deep.

## III. RESULT

Participating participants as well as in study This were 9 participants with range age 1 year - 14 years. Kindly general 6 participants who were anemic and 3 people who were non-anemic were diagnosed cancer eyes. Researcher do analysis on description experience with participant with interview in a manner direct regarding the father or Mother in nurse child with cancer.

**Table 1. The Overview of Children with Cancer in YKAKI**

Variable	Frequency ( n )	Percentage ( % )
Type of Cancer		
Leukemia	6	66,7
Non Leukemia	3	33,3
Nutritional status		
Thin	-	-
Normal	9	100
Fat	-	-
Development		
deviation	1	11,3
Doubtful	-	-
In accordance	8	88,7
Heredity Factor		
Yes	2	22,3
No	7	77,7
Environmental Factors		
There is	2	22,2
None	6	71,8

Researcher identify description results interview the in four themes, that is complaint experienced by children, the impact on children, differences growth with child age and difference development with child her age. Researcher carry out the process of

## Nutritional Status and Development of Children with Cancer

data analysis with record the output from notes field with give source order code the data easy traced. Collect and create keywords. To try find originating themes of data, then researcher writing models and coding.

There are 4 themes obtained are:

1) Complaints beginning experienced by the child "From birth plasticity pale , limp , anyway different The same another baby ..."(P1) " Initially hot One week it doesn't go down "....." brought the health center is not cured then reference going to the hospital is still hot....to the doctor specialist new caught if got leukemia." (P2) " There was no childhood sign nothing .... He will be healthy wrote ... " then when he get fever, I bring to hospital he said got a glandular tumor sap clear ... then biopsied hmm I don't know leukemia..... It's really sad day. That hear child hit sick with leukemia..." (P3) " He often fever , pale , belly swollen , carried to the hospital in Karawang can't treated .... finish That referenced to RSCM..... checked stomach the swelling .... new caught for leukemia" (P4) " Four months ago there is lump on forehead , but nothing complaint ... brought to the hospital at the base of areca nut told refer to Jakarta"....." here say leukaemia .... already here two weeks the lump flat own " (P5) "From the beginning healthy mom .... only at 13 years old hospitalized operation tonsils , 13.5 years old treated Again fever bleeding ... exhausted That complain limp The same Dizzy until in ICU 3 days, the doctor know it is leukemia..... in May was referred to RSCM". (P6) "During pregnancy it was normal..... just like her older sister ... born also normally... time 2 years old I look on the other side left ... really There is spotting white , brought to doctor from doctor told get treatment to RSCM... from there it's new found out hit cancer eyes ....( down sad )..."(P7) "From babies 3 months old already plasticity in the eyes adjacent left There is point like sand but no complaints nothing ....( silent )... 2 years old start There is complaint eye red when he watch small eyes compared next to her ..... I bring to clinic he said she got cataract , referred to the district hospital .... checked he said there is a tumor in the eye then I referenced again ordered to the hospital in New Jakarta say the disease is retinoblastoma" (P8) "When I was born already There is point on the eyeball item ... it's just not visible .... if flashlight new look .... at the age of 2 years the point widened , i.e bring to doctor specialist eyes .... spelled out glaucoma then given eye drops ... me can letter reference to the regional hospital .... from there just said to be an eye tumor and had to referenced to Jakarta" (P9).

2) Differences in growth with children of his age: "If you want to eat...anything you eat...that's what makes me excited,...the weight continues to increase when you balance it"(P1) "Just like other children... it's just...yes, that's it,...sometimes she tends to get weak..."(P2) "Until now, her weight is still good...at least after treatment she feels nauseous....no appetite...she eats too picky"(P3) "Initially she was thin ....had no appetite" (P4) "He has had good growth since he was small and has had no complaints....only the lump on his forehead...eats too...until his cheeks get fat...eats 4-5 times a day....now the dose of medicine is reduced so he eats like normal again 3 times a day.."(P5) "The complaint until now is that he sometimes feels lethargic, has no appetite....."(P6) "The growth is good and there are no complaints other than in his eyes"(P7) " Her weight is good....she's growing the same as her brothers and sisters, basically there's no difference.....!"(P8) "He has a good appetite...at least when he finishes treatment he has a bit of no appetite...with him it's a drug allergy....she keeps on gaining weight and never loses" (P9).

3) Differences in development with children of his age: "different from his cousin.... until now (1 year 3 months) he can't sit yet.... so he has to be carried on my lap and carried all the time" (P1) "His development is good..... he's already at school like his friend ....(P2) "If you look at it, it doesn't change the same as before.....only if you're on treatment..that's just different..." (P3) "He changes sometimes he doesn't want to play with his friends....he feels inferior that he feels different from his friends -his friend..." (P4) "It's good that he's in grade 6 now....his school is smart....when he grows up he wants to be a doctor...."(P5) "He was in school, his school is not advanced yet...."(P6) "He has normal development.....1.5 years old, he speaks very fluently....."(P7) "It's good...he already knows a little bit about color, I can actually walk up the stairs myself because I only have one eye that is clear.....!m sure my friends don't dare to let go" (P8) "Same as her brother...but because I'm sick I keep taking care of it so sometimes I'm not independent ....." (P9).

4) Impact on children: "The child is lethargic.....not like other children.....often fussy" (P1) "Yes, I see,...so I often go back and forth to the hospital,...so lonely rarely plays with friends" (P2) "So it's different from other children...we have to put our trust in,..be patient with this child"(P3) "When I first heard about leukemia, I was shocked..."(P4) we have carried out our prayers and efforts..., yes,..hopefully he can be normal like other children" (P5) "Yes, the impact on children.....on me, so I don't have an appetite for food,...look at children like this, no? can go anywhere I can't imagine my child like this,...."(P6). "The child is cheerful....only because his eyes have been operated on he wears fake eyes so....sometimes he likes to fall....."(P7) "Dianya still doesn't understand it.....you know how to play .....maybe we are the ones who think about it...poor don't expect it...if you have a disease like this" (P8) "His right eyeball has already been removed.....so what can he do he just uses his left eye ....the child can't be quiet....agile like a child his age"(P9).

## Nutritional Status and Development of Children with Cancer

### IV. DISCUSSION

#### 1. Factors that influence cancer in children

Factors that cause cancer can Cancer in children is different from cancer found in adults. Cancer in adults can be prevented, while in children it is not. It should be noted that a healthy lifestyle and eating must still be taught to children from an early age. It is not only aimed at preventing cancer that can arise in childhood, but to prevent it so that when they reach adulthood, they can avoid various types of cancer that usually attack adults. (5)

The International Union Against Cancer, or better known as UICC, recommends that parents teach their children, among other things, not to smoke, eat a balanced nutritional pattern, and follow the immunization program that applies in their respective countries.

#### 2. Growth in Children with Cancer

Curative therapy for leukemia patients is in the form of chemotherapy (Permono, 2006). Chemotherapy does not only have a good impact, but has side effects for patients. Side effects that occur depend on the type and dose of chemotherapy drugs used. Chemotherapy makes patients susceptible to infection, prone to bleeding, weakness, lethargy, hair loss, sores on the lips and mouth, nausea, vomiting, diarrhea and decreased appetite. (6)

#### 3. Development in Children with Cancer

Children with leukemia generally have psychological problems. The world of children which is full of activity and joy changes, as well as social activities, such as playing, going to school, children are faced with pain, medical procedures for diagnosis and treatment, as well as other treatment routines such as taking medication and monitoring drugs at the hospital. Psychological aspects need to be considered to support the smooth process of treatment and child development after recovery. (7)

Indira Laksmi's research results show that stress levels have a negative effect on coping. The higher the child's stress level, the lower the coping. In addition, coping has a positive effect on adaptation achievement. Coping behavior has a positive influence on adaptation achievement. (8)

Manifestations of stress behavior and parental coping affect the manifestations of stress and coping behavior in children, pain caused by medical measures such as lumbar function and bone marrow aspiration is a major source of stress for children. Children are afraid of medical procedures that cause children to be afraid of doctors or nurses. (9)

This will certainly affect the treatment process and the psychological condition of the child. Therefore, it is recommended for doctors and nurses to improve themselves in their ability to communicate with patients and to be empathetic and sympathetic. Besides that, it opens wider opportunities for psychologists to provide assistance in the treatment process, from the initial examination until the child with ALL is declared cured.

#### 4. Impact of Cancer

From the qualitative results it can be concluded that the impact of cancer in children can have an impact on both the child and the family. Families that have children with leukemia will pose a significant burden to other family members. Parents generally feel guilty or feel anxious because they feel responsible for what happened to the child, or in their sadness they hope to be able to replace the child to bear the leukemia. Parents need sympathetic assistance and support from all parties involved, both for the welfare of the parents themselves and for their efforts to provide care for the child. (6) Friedman (1998) said that the function of health care is a function to carry out health care practices, namely to prevent health problems and treat sick family members. (10)

Patients with chronic diseases such as leukemia will experience dependency on their families as a result of limitations and disabilities in response to pain and trauma. Chronic diseases such as leukemia will cause stress to children and families (Mussatto, 2006). Children suffering from leukemia really need serious attention, commitment and struggle for family members to care for them. Not all family members can accept and adjust quickly. The family feels guilty, angry and stressed about this condition. Therefore, leukemia in children also has an impact on family life in terms of psychological, economic, emotional and social so that it requires adjustments. (11) Bernard (2009) who researched the Psychological Effects of Physical Illness and Hospitalization on the Child and the Family said that most parents who have children with leukemia feel a heavy burden, both moral and material. (12) This is because apart from having to continue to monitor the growth and development of the child, the costs required for blood transfusions are also quite expensive, it can spend millions of rupiah each month. Apart from the cost being a problem, another problem is that this disease is a lifelong disease, meaning this disease is a disease that cannot be cured. The medical measures that have been carried out so far are not curative but as supportive and temporary to sustain life.

Lanni (2008) states that parents who have children with Leukemia experience burdens such as anxiety and stress. The problem of the most severe costs and risks that will be faced by children is the main factor for parents' anxiety. (13) Hawari

## Nutritional Status and Development of Children with Cancer

(2000) states that anxiety can be a normal emotional reaction in several other situations. (14) For example, parental anxiety when dealing with a sick child, not just a chronic illness, even an ordinary fever, almost every parent often cannot sleep at night until their child's body heat can be controlled or changed to normal body temperature, the same goes for children who have to face blood transfusions every one to two times per month. (15)

### V. CONCLUSION

Based on results study is known part big type cancer in children is leukemia. From the observations made against 9 children sufferer cancer does not get deviations in nutritional status.

From 9 respondents obtained 1 respondent who experienced lateness in matter development however almost part feel obstacle psychological because effect treatment and care. From results interview only part small possible respondents have factor environment and heredity.

### ACKNOWLEDGMENT

I would like to thank the Health Polytechnic Jakarta I for providing support and research funding so that this research was completed on time. The authors thank all participants and research assistants.

### REFERENCES

- 1) World Health Organization. (1997). Nutrition and Poverty. Paper from the ACC/SCN 24 Session Symposium. Kathmandu.
- 2) Nursalam., Susilaningrum, Rekawati., & Sri Utami. 2008. Asuhan Keperawatan Bayi dan Anak. Jakarta, Salemba Medika.
- 3) Hockenberry, M.J., & Wilson, D. (2009). Wong's essential of pediatric nursing.(8th edition). Missouri: Mosby Company.
- 4) Dharma, Kusuma Kelana (2011), Metodologi Penelitian Keperawatan : Panduan Melaksanakan dan Menerapkan Hasil Penelitian, Jakarta, Trans InfoMedia.
- 5) Iori Sato, Akiko Higuchi, Takaaki Yanagisiwa, Akitake Mukasa and Kohmei ida, et all, (2013) Cancer-specific health-related quality of life in children with brain tumors, Quality of Life Research 23, pages1059–1068 (2014).
- 6) Arslan, F. T., Basbakkal, Z., & Kantar, M. (2013). Quality of Life and Chemotherapy-related Symptoms of Turkish Cancer Children Undergoing Chemotherapy. Asian Pacific Journal of Cancer Prevention, 14(3), 1761–1768
- 7) Friedman, 2003. Keperawatan Keluarga. Jakarta: EGC (Mussatto, 2006).
- 8) Bariah, S., Roslee, R., Zahara, A. M., & Norazmir, M. R. (2011). Nutritional Status and Quality of Life (QoL) Studies among Leukemic Children at Pediatric Institute, Hospital Kuala Lumpur, Malaysia. Asian Journal of Clinical Nutrition, 3(2), 62–70
- 9) F Lanni, RA Gani, RW Widuri, B Verawaty (2008)  $\beta$ -thalassemia and hemoglobinb-E traits In Yogyakarta Population, 11th International Conference on Thalasemia and Haemoglobinopathies.
- 10) Ikeu Nurhidayah, Sri Hendrawati, Henny S. Mediani, Fanny Adistie (2016) Kualitas Hidup pada Anak dengan Kanker, Jurnal Keperawatan Padjadjaran Vol.4 No.1
- 11) awzy, M., Saleh, M., El-Wakil, M., Monir, Z., & Eltahlawy, E. (2013). Quality of Life in Egyptian Children with Cancer. Journal of Cancer Therapy, 4, 1256–1261.
- 12) Sato, Iori; Higuchi, Akiko; Yanagisawa, Takaaki; Mukasa, Akitake; Ida, Kohmei; et al. Quality of Life Research 23.4 (May 2014): 1059-68.
- 13) Kementerian Kesehatan Republik Indonesia, (2012), Buku pedoman Pelaksanaan Tumbuh Kembang
- 14) Tsuji, N., Kakee, N., Ishida, Y., Asami, K., Tabuchi, K., Nakadate, H., Iwai, T., et al. (2011). Validation of the Japanese version of the Pediatric Quality of Life Inventory (PedsQL) Cancer Module. Health and Quality of Life Outcomes, 9, 22.
- 15) Sidabutar, F. M., Anandari, A. R., Ezra, C., Karli, I., Katagori, Y., & Wirawan, H. E. (2012). Artikel Penelitian: Gambaran Kualitas Hidup Pasien Kanker Pediatrik Usia Sekolah. Indonesian Journal of Cancer, 6(2), 73–78



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.