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A QUALITATIVE STUDY OF PERCEPTIONS OF ADOLESCENT CANCER SURVIVORS' ADAPTATION

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Abstract

Adolescence is a transitional period that has a different developmental process from the ages of children and adults. The existence of a cancer diagnosis in adolescence will cause various kinds of physical responses and psychological responses for them. The purpose of this research is to explore the experiences and adaptation mechanisms of adolescents diagnosed with cancer. This study uses a qualitative method with a descriptive phenomenological approach. The participants of this study consisted of seven teenagers with cancer. Data collection was carried out by in-depth interviews based on the research objectives. Analysis of data from interviews using the stages of analysis according to Colaizzi. The findings of this study include: physiological responses and adaptations, psychological responses and adaptations, dimensions of needs, social dimensions, dimensions of self-concept, dimensions of activity, as well as hopes and efforts to recover. Recommendations from the results of this study are aimed at pediatric nurses who may have direct contact with adolescents with cancer in helping them use adaptive strategies in dealing with a cancer diagnosis and the effects of cancer therapy.

Keywords: Adolescents with cancer, cancer diagnosis and effects of cancer therapy, adaptation strategies

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Introduction

Cancer as a type of non-communicable disease is also a cause of death in the world. Even cases of cancer at various age levels both in the world and in Indonesia are also found to be quite large. In 20 2 2, among 3.2 billion people in Southeast Asian countries (48% of the world's population), 4.2 million new cases were diagnosed as cancer (39% of new cases in the world) (1) . In Indonesia, based on Riskesdas 2018 data, the percentage of cancer cases found was 0.43% (Kesehatan et al., 2019).

Cancer can occur anywhere and to anyone regardless of gender, age, and economic status. As a disease that contributes to an increase in mortality, cancer that occurs in children and adolescents is a part of the world's attention. The incidence of cancer in children in the world also varies greatly . The incidence of cancer in children and adolescents shows an average incidence of cancer based on the age of children and adolescents ranging from 92 to 220 per 1 million children (3) . The highest incidence rate was found in children aged 1-4 years. The results of this study also stated that the most common types of cancer in this group were leukemia, lymphoma and brain tumors (Yen et al., 2016).

Based on a similar study conducted by Chen et al (5) the incidence of cancer among children and adolescents showed that there were 36,446 children with cancer and based on the average incidence for the age of the child, it is known that the incidence is 165.92 per 1 million children. The results of this study also show significantly that the incidence of cancer in children (0-14 years) is lower than in adolescents (15-19 years).

Estimates of new cases of cancer in children in Indonesia are approximately 11,000 new cases per year (Kesehatan et al., 2019). According to Riskesdas 2018 data , the incidence of cancer in the age range of 15-24 years (0.24%) is higher than that of those aged 5-14 years (0.15%) (Kesehatan et al., 2019). Although there is no specific age range for adolescents with cancer reported based on these data, the age range for adolescents with cancer is between the two age groups, and this number is very significant for adolescents in Indonesia. Especially in the city of Jakarta and its surroundings, it is estimated that there are 650 cases of cancer per year in children (under 18 years) (Kesehatan et al., 2019).

For the age range of adolescents with cancer, based on a literature review by Abdin et al (1) states there is no definite age limit for adolescents suffering from cancer. However, according to Salchow et al (6) for the context of cancer, the age range for adolescents is in the range of 15-19 years. This age range is in accordance with the SEER (Surveillance, Epidemiology and End Result) program reference from the National Cancer Institute (NCI) in the United States, that for the purposes of research on cancer they set the age of youth in the range

of 15-19 years (7). This age range is the age range commonly used by researchers in studies of adolescents with cancer.

Adolescents who experience changes in health conditions such as cancer are becoming increasingly difficult for them to achieve normal developmental processes. Cancer diagnoses that occur during this time can affect the transition process from childhood to adulthood (8). With the existence of cancer suffered by adolescents, it makes adolescents perceive their lives as more difficult and full of stress when compared to their healthy peers. Adolescents suffering from cancer feel that there are several things that limit their lives, there is worry, pain and fear, and there is a need for strong efforts to survive (Smith-Turchyn et al., 2021). Teenagers with cancer will face the same treatment and therapy process as other ages who also experience cancer. What is different is the experience of the physical and psychological responses of these adolescents. Based on research conducted by Hunter et al (10) with a quantitative method approach, described a potential relationship between adolescent behavior when first diagnosed with cancer and adolescent psychological responses after 4 years later. The behavior of adolescents who search for information when they are first diagnosed with cancer will have a more positive life impact after 4 years later. On the other hand, for adolescents who did not make good efforts when they were first diagnosed with cancer, 4 years later they did not have good self-esteem and good relationships with others (Spector et al., 2014).

Another study was conducted by (12) which assessed adaptive responses in adolescents with cancer. By using qualitative research methods and in-depth interviews, the results of this study indicate that there are adaptive strategies used by adolescents with cancer. Adaptive strategies carried out by adolescents include that they are creatively able to manage changes that occur in their bodies, while maintaining positive behavior and demonstrating their psychosocial maturity (McNeil et al., 2022).

Furthermore, in research conducted by Krok-Schoen et al (14) regarding the needs of children and adolescents with cancer, it shows their uncertainty about cancer, conflicts that occur more often with their parents than healthy adolescents, difficulties in discussing future plans or their death. as well as frequent absences from school. It is known that the impact of chronic illness on adolescents can occur in the process of adolescent psychosocial development, level of activity, and there is an increased risk of deviant behavior and emotional behavior (15). The existence of conflicts that occur between children and parents in cancer as explained by Weitzer et al (16) clearly shows the impact of chronic conditions on adolescents which are also felt by their parents. According to Seidell (17) as a teenager with a chronic disease condition, teenagers want to independently manage their disease condition than

their parents. They are trying to decide to what extent they will comply with the treatment they will undergo.

The physical impact of cancer and medical therapy on adolescents is also a severe stressor for adolescents. These impacts include pain, fatigue, hair loss and nausea and vomiting. In addition, the side effects of therapy both in the acute and advanced phases also limit the ability of adolescents to develop like normal adolescents (18). The psychological responses that may arise and hinder the developmental process of adolescents with cancer include anxiety, body image disturbance, depression, impaired self-esteem, self-isolation, decreased social skills, even fear of death (19). The physical appearance of adolescents and the limited activity of adolescents with cancer are problematic and difficult for adolescents to live their days (20)

The adaptation of adolescents with cancer cannot be separated from the role of health workers who always interact with the condition of the adolescent's disease. This is because a cancer diagnosis during adolescence causes significant stress which greatly affects the stages of the adolescent's development. Adolescents will depend heavily on effective adaptive abilities to remain able to reach their developmental maturity. Therefore, health service providers for adolescents with cancer must be able to pay attention to the adaptability of each adolescent who is currently not only dealing with normal developmental tasks but also must adapt to their cancer condition (21)

Researchers have not found any research in Indonesia regarding the adaptation of adolescents diagnosed with cancer both quantitatively and qualitatively. Therefore, to obtain in-depth information, understanding, and get an overview of every experience related to adaptation to cancer faced by adolescents with cancer, the appropriate research design approach to base this research is a qualitative design with a descriptive phenomenological approach . Based on the physical and psychological responses that may arise from adolescents with cancer, the needs of each adolescent for care and support during a cancer diagnosis will also vary. Therefore it is important for us to know the physical and psychological responses that arise from a cancer diagnosis in adolescents as a reference for health service providers in meeting the needs of adolescents with cancer. In Indonesia itself, there is no qualitative research that looks at the adaptation experiences of adolescents to be able to survive with their cancer. Therefore, in this study, researchers are interested in exploring the extent of the adaptation experiences of adolescents diagnosed with cancer. This study aims to explore the experiences and adaptation mechanisms of adolescents diagnosed with cancer.

Method

This research on adolescent adaptation to cancer uses a qualitative research design with a phenomenological approach. In this study, the life experience that researchers want to explore is the experience of adolescents diagnosed with cancer, where it is believed that adolescents with cancer will experience life events that are different from other healthy adolescents. In addition, each teenager with cancer will also respond to different experiences. This response can be seen in the unique and varied behavior of adolescents which is related not only to the developmental changes they experience, but also to the cancer diagnosis they have to face. Therefore, in achieving the objectives of this study the researcher sought to obtain this information by emphasizing the richness, breadth, and depth of the experiences of adolescents with cancer (Speziale & Carpenter, 2003). This research was conducted for approximately 6 months, starting from February to July 2022. This research was conducted at Dr. Kariadi Hospital, Semarang, Indonesia. EC.

Participant

In this study, which is also a type of phenomenological qualitative research, 7 youth participants with cancer were involved. Besides that, the determination of the number of participants as many as 7 people was also determined or limited because the data the researchers got had reached saturation in the 7th participant. The selection of participants in this study used a purposive sampling method. In this research on the adaptation of adolescents to cancer, the criteria used in selecting participants were adolescents with an age range of 11-19 years, who were being diagnosed with cancer and were still undergoing cancer treatment/therapy, were able to communicate well and speak Indonesian and were willing to be willing participants. willing to provide information about his experience related to adaptation to cancer. Based on these criteria, 7 adolescents with cancer agreed to be involved in providing information regarding research objectives and gave their consent on the informed consent sheet.

Participants voluntarily participated in this research process and the initial process of building a trusting relationship has been established, then the next step is that the researcher asks for the participants' addresses and enters into contracts with the participants and their families to hold further meetings at the participants' homes or at a place agreed upon by the participants. The interview process was carried out at each participant's home and the agreed time was according to the participant's wishes.

Data Collection Procedures

The technique of collecting data from this qualitative research with a phenomenological approach is to use an in-depth interview process to explore the adaptation experiences of adolescents while dealing with

the cancer they are suffering from. The interview process was carried out informally, even though the researcher had an interview guide, the interview process was based entirely on the spontaneous and natural development of questions. The form of the questions used are open-ended questions so that teenagers can explore more regarding their experiences and adaptation to the cancer they are experiencing. Simultaneously with conducting interviews with participants, the researcher also used field notes during the interview process to explain the events that the researcher found during the interview process with the participants such as what was heard, experienced and thought by the researcher to reflect on the data obtained.

The process of collecting data through interviews was carried out at the participants' homes when the participants were relaxed and ready to be interviewed. The place and time for carrying out the interview process is in accordance with the agreement of the youth and the researcher. The interview time span that researchers generally use for all participants on average ranges from 45 minutes to 1 hour. The data collection process in the validation process was carried out after the data transcript process and data analysis for each participant were completed. The data analysis was then validated directly with the participants to obtain compatibility between the statements conveyed by the participants and the meanings found by the researchers through data analysis. Through this process, this validation was also carried out to reassure whether the transcripts and analyzes prepared by the researchers were approved by the participants as their real experiences. In this validation process, not much additional information was obtained from the participants in the results of the analysis that the researchers had determined, even though there were several changes in the keywords that supported a meaning or category which, according to the participants, did not match the meaning that the researchers determined. Therefore, based on the information from the participants, the researcher re-analyzed and entered the information submitted by the participants into the appropriate categories and themes.

While collecting data through interviews conducted with participants, the researcher recorded all the results of the interview using a Sony Voice Recorder recording device which the researcher believes has accuracy in recording the interview process, namely having clear recorded sound quality and a fairly long recording duration. Other tools that researchers use are paper and pencil/pen to record important things related to important key words and important events.

Data analysis

This data analysis was carried out in conjunction with data collection, data interpretation, and narrative report writing (22). The stages of data analysis that researchers used in this study are in accordance with

the stages developed by Colaizzi (23). The final data validity criterion is transferability, which is the ability of research results to be applied to other places or groups with similar criteria to the research (Lincoln & Guba, 1985).

Results

Based on the results of the analysis of the interviews conducted, the researcher has identified several themes related to the research objectives. The themes consist of: 1) adolescent physiological response and adaptation, 2) adolescent psychological response and adaptation, 3) needs dimension, 4) social dimension, 5) self-concept dimension, 6) activity dimension, and 7) hope and effort to recover from illness.

1. Physiological response to cancer and its treatment

The physiological response to cancer experienced by adolescents in this study was influenced by the physiological response to cancer and cancer treatment. Physiological responses due to cancer experienced by participants included pain, paleness, hair loss, nausea and vomiting, fatigue, changes in skin color, as well as injuries to the oral mucosa and changes in taste on the tongue. To clarify the existence of a physiological response to cancer and the treatment experienced by the participants, the researcher will present some of the interview results from the participants as follows:

Keywords related to pain:

"But it really hurts... it hurts... the problem is that it hurts.." (P1)

"The bone pains in the back are painful... basically in many areas of the body that hurt..." (P3)

...ears ringing.. Then his neck also hurts.. It's not good.. (P2) (P5)

Keywords related to paleness:

I have a pale body like that and it looks like yellow, this one looks like yellow.. (while pointing to the whole skin of his body) (P3)

Keywords related to hair loss:

“...hair loss, how many times have you lost your hair..”(P1) (P4)

Then, if you do chemo, your hair can fall out.

Keywords related to nausea and vomiting:

I don't want to have an appetite.. Then it's like smelling bad hospital food.. ..after chemo has finished, that's bad enough by default.. (P4)

“..nausea.. I'm vomiting...” (P1) (P2) (P4)

Keywords related to fatigue:

.. right after school, if you walk home from school, it's really slow.. (P4)

"Then now you can't do things that are tiring.. if you're tired, if you do just a little, you're tired already.." (P5)

"You must be weak if you've been on chemo drugs...,...really weak..." (P1) (P3) (P4)

Keywords related to changes in skin color:

"..when the item shines on the neck (while showing the left and right neck).. That's why it's striped.." (P5)
Keywords related to oral mucosal injury, dry throat and changes in taste on the tongue:
..my mouth is a bit messy.. Canker sores like that.. (P1)
... canker sores and dry throat.. If you eat rice, it stings in your mouth to the point where it's hard to swallow.. (P7)
Then, for chemo, the medicine really tastes in the mouth.. It's like bargaining.. the taste of chemo medicine is weird.
On the tongue, the taste is thick and not good.. The taste is different.. (P1)
Physiological Adaptation
Adolescents' adaptation to physiological responses to illness and treatment shows some concrete actions taken by adolescents in dealing with these physiological responses. The adaptations to these physiological responses include: efforts to overcome hair loss, nausea and vomiting, fatigue, changes in skin color, changes in taste on the tongue and canker sores.
The experiences shared by several participants regarding the hair loss they experienced as a side effect of cancer therapy treatment can be seen in the participant statements below:
" Hat... I'm wearing a hat..." (P1) (P2) (P3)
" You're wearing a headscarf... so when you go home, you go to play, sometimes you don't wear a headscarf, you wear a wig..."(P2)
The feeling of nausea and vomiting that generally occurs in cancer patients undergoing chemotherapy is also a stress that burdens adolescents physically. The participants' statements regarding their adaptation in overcoming nausea and vomiting due to treatment are:
"At least I only eat candy.." (P3)
"Just rest, lie down.. Lie down.." (P6)
The existence of long enough treatment for cancer also has a fatigue effect for adolescents, but participants who stated how to deal with the fatigue felt due to treatment, were only seen in one participant, namely:
"Yeah, basically I just want to lie down on the bed, nothing else..." (P1)
Changes in skin color to darker also occurred in participants with Ca.Nasopharynx who were undergoing irradiation therapy. The actions taken to overcome these side effects are as stated by the following participants:
"Use ointment... then his skin looks like it's peeling off, it's ripped like that..."(P5)
Changes in taste in the sense of taste due to chemotherapy treatment were also experienced by adolescents in this study, and the statements below are their ways of dealing with the side effects of the treatment:
"I just rinse my mouth most.." (P1)

"I eat candy or drink sweet tea made by mom.." (P4)
Canker sores and dry throat are also side effects that can occur in teenagers who are undergoing chemotherapy treatment, and the ways that teenagers do to deal with these canker sores are as follows:
"Usually I ask the nurse for medicine to relieve the pain..." (P7)
2. Psychological Response and Adaptation of Adolescents with Cancer
The psychological response and adaptation of adolescents with cancer is also an experience that is generally felt by the participants in this study. This psychological response also arises because of a cancer diagnosis and treatment therapy that they have to undergo for quite a long time. For this reason, in dealing with this psychological response, the adolescents in this study also had adaptation strategies to deal with these psychological responses
Psychological Response
Participants expressed various psychological responses they felt related to the diagnosis of cancer and the treatment therapy they had to undergo. The psychological response is in the form of grieving processes, feelings of fear, emotional feelings, uncertainty, and feelings of boredom. Below the researcher will show some of the psychological responses that occur in adolescents based on the statements of the participants.
Grieving Process
Teenagers who experience cancer, from the first time they know they are diagnosed with cancer until some time they are undergoing treatment and medical action can experience quite heavy psychological responses as a grieving process. The grieving process seen in the participants in this study included denial, which was evident in the following participant statements:
“Shocked” (P1) (P5)
"...was told to amputation...I didn't want to...when I was small, I had to deal with my feet when I was young, I was difficult to deal with like that...then my leg had to be removed..." (P1)
"I still can't believe it, how come it's got a tumor, sis?" (P1) (P2) (P5)
"Sad.. his body felt weak because he heard the news..... (when he found out that he had cancer)" (P7)
"N also didn't think that N would get cancer..."(P6)
The process of grieving anger can be seen in the following participant statements:
..the first time it really forced me to have it amputated.. I SHOCKED, "I don't want Sus.. My legs have been small since I was little, you can just remove them like that".. Then I explained again.. I snapped even more..(P1)
The process of bargaining grieving can be seen in the following participant statements:

“..“What are the most sins, huh?” I thought so.. If I knew how big the sin was, I would repent...” (P1)
"Why did I get the disease, where did it come from, O Allah?" (P2)
"..The point is, I rarely get sick, why do I get sick directly with cancer, sis..?" (P2)
The process of grieving depression can be seen in the following participant statements:
"..it's like there's a feeling of hopelessness, because A said at that time to mom, "Well, you don't need to be treated, because it's already bad, it seems like there's no cure anymore" A said like that. , like it's not A anymore.. It's really sad...” (P7)
The process of grieving acceptance can be seen in the following participant statements:
"But what are you going to do next, this is how it goes... But I think I'm better than yesterday... I don't feel sick anymore, I can joke around... that's it... (there has been a change)" (P1)(P2)
"What to do..? If, for example, blood cancer is declared, what are we going to say?”(P3)
Feeling Scared
The psychological response of adolescents when they find out about a cancer diagnosis and the various examinations and treatments they have to undergo makes them think about scary things. The fear they feel includes feeling afraid of disease conditions, feeling afraid of undergoing treatment and feeling afraid of future failure from the presence of cancer and the effects of its treatment. Some of the participants' statements that showed fear of a cancer diagnosis included:
"People say that tumors are malignant like this like this like this right.. Ha, then I was scared.. "Finally he died.." The first image was like that, right? (P2)
"I don't know... but when we hear about cancer, we're already scared..." (P3)
"Yes, it's cancer, it's said to be a deadly disease.. So I'm scared.." (while crying) (P6)
Fear of the process of undergoing treatment, expressed by the participants as follows:
"I'm worried that the doctor will surround me... I'm holding his left and right hand..." (P4)
"Takuuutt.. afraid of throwing up.. can't eat.. bald tar.. Apparently not bald.. (laughs)" (P5)
Furthermore, the fear that adolescents feel about the possibility of future failure is expressed as follows:
"I think like this.. "Ah, I'm sure tomorrow I won't be able to do activities, I've failed all of these times.." I thought so.. What do you want if you fail all the time? ..” (P1)

"At that time he thought "Can I continue school or not, is this A?" like that.. (P7)

Emotional Feelings

The more emotional feelings felt by adolescents regarding their experience dealing with a cancer diagnosis and treatment as well as the demands on them to continue to undergo treatment regularly cause feelings of sadness, disappointment, and feelings of annoyance and anger shown to others. The feelings of sadness they feel regarding the disease and the effects of cancer treatment are as follows:

"Yeah, just sad.. "Why did I get this disease, where did it come from, O Allah?" (P2)

"It's sad.. It's usually everyday, what's it called, a lot of friends like that, right.. doing chores.. This is everyday in the hospital like that.." (P3)

"Yeah... It's sad to have to leave class like that..." (P7)

In addition to feeling sad from the presence of cancer, adolescents also show a sense of disappointment with their physical condition and with non-therapeutic services. This is shown in the statements of the participants as follows:

"Yeah, if you're disappointed, there's bound to be... Disappointed with this leg too... It can't heal like that..."(P1)

"The way to convey it is rude, if it's gentle it's okay sis G accept if that's the case right... Oh my God, I'm crying to hear this.." (P2)

"Disappointed.. It doesn't heal.." (P5)

The feelings of annoyance and anger felt by the adolescents in this study were closely related to the attitudes of other people, both from health workers, their families and from their peers towards them, some of whom also admitted to feeling more sensitive as a result of cancer treatment, the statement is as follows:

"Indeed, since I got chemo, I have become sensitive, so stubborn.

“..Then, “You are like a dead person...” that, you know what “dead but his eyes open, suspended animation..” that's.. You say that.. ...guys and girls say things like that ..

Yes, how about it.. I'm sick, it hurts.." (P3)

".., said the same friends "there is a new student.."

every day they say they are bald, they say they are bald, they say they are bald.. He'eh, they keep saying it... “What the heck is that?”... It's so annoying...” (P4)

Uncertainty

The next psychological response felt by adolescents who suffer from cancer in this study is a feeling of uncertainty and confusion for them. These feelings can be seen from the expressions of the participants' statements as follows:

“Feeling down.. “what will happen later??”… It must have felt all kinds of things when people have been diagnosed with that..” (P1)

"It's not good, isn't it.. don't calm down.." (P6)

"A's only thought is "can this disease be cured or not?" Another idea might be "can A fight this disease until it's finished, until it really doesn't exist in A's body?".." (P7)

Feel bored

To always be in the hospital and undergo a long treatment, makes teenagers with cancer feel bored with this situation. Some of the participants who stated that they felt bored in the hospital were as follows:

"Actually, I'm already bored... Yes sis. It's been 8 months..." (P2)

"..it's boring there (at the hospital).. I don't meet friends.. So I rarely play.. When I'm at school, it's fun to play.." (P4)

"It's like being in the hospital is saturated, BeTe.. There's no one to talk to.." (P7)

Psychological Adaptation

The existence of various psychological responses in adolescents that occur because of a cancer diagnosis and the treatment they are undergoing, requires them to be able to overcome the psychological responses that arise with various strategies. The adaptation strategies they used included: 1) venting their frustration, 2) running away from treatment, 3) being indifferent to the ridicule of friends, 4) controlling the environment to remain calm, and 5) carrying out activities to relieve boredom due to hospitalization.

Expressing Anger

With feelings of resentment towards unwanted events by adolescents while being diagnosed with cancer and while undergoing cancer treatment, the strategies used by these adolescents included participant statements as follows:

"..the first time it really forced me to have it amputated.. I screamed, "I don't want Sus.. My legs have been small since I was little, you can't just remove them." (P1)

"When I'm cranky, I mess it all up.. This is the bed.. When I'm angry, I mess this up like that…" (P3)

“At that time, you like to grumble.

Escape from Medicine

When an adolescent participant with osteosarcoma was given information regarding the amputation process he had to face, the youth decided not to continue treatment at the hospital. And when he learns that his mother took him to the hospital to return for further treatment, the teenager attempts to escape in an attempt to resist treatment. The participant statements are as follows:

"Well, I just ran away straight away, went straight to the elevator, I just broke off the bracelet, "is this, ma'am, ordering my sister to chemo?

Be Ignoring Friends' Teasing

Several adolescents with cancer in this study, after they finished undergoing chemotherapy treatment at one stage, they still tried to go

to school and take lessons. However, they sometimes have to deal with situations where their friends at school see them differently and even ridicule their changed physical appearance due to cancer treatment. The ridicule is generally ignored by them, and they tend to ignore it and act indifferent. These conditions can be seen in the statements of the participants as follows:

"I don't care about the views of my friends.."(P1)

"...but I'm used to it.. Let it be.. Just let it be.. tar also shut up.."(P3)

“Just shut up.. mmm “what the heck.. what” just like that..” (P4)

Controlling the Environment to Keep Calm

Another psychological adaptation that is also used by adolescents with osteosarcoma, when he feels intense pain due to his cancer, he tries to control his environment to stay calm. Based on the teenager's statement, he refused to meet public people. The statement is:

"I refused my friends who came to the house..Just hearing the noise, my brain really hurts, my legs hurt like that.."(P1)

Doing Activities To Eliminate Saturation Due To Hospitalization

The existence of a psychological response to boredom that they feel as a result of long treatment demands so that they have to be in the hospital often, makes them try to control this boredom through several activities that they do. The things they did while in the hospital to get rid of the boredom were as stated by the participants below:

"Facebook's, IG 's.. Twitter.. watching, listening to music... Where the children are playing.. sitting there, telling stories.. with the children there.."(P2)

"Watching TV, playing on the computer, reading comics.. Then playing with friends there.. Sometimes chatting like that.." (P4) (P7)

3. Dimensions of Need

The findings of this study also show that there is a dimension of need which is quite important for them to be able to continue to adapt to the disease and the effects of cancer therapy.

The need for calm

When a teenager with Osteosarcoma feels severe pain, he feels unable to hear noise and attempts to control the environment appear by refusing his friends to visit the house, as explained in the psychological adaptation above. This adaptive behavior is driven by the need for a sense of calm from the environment. And statements related to the need for a sense of calm were expressed by adolescents as follows:

"I want to be calm like that... It's just a person with a toothache, the person is shouting angrily... Moreover, I feel that way..."(P1)

The Need to Obtain Information

Understanding cancer and its treatment therapy is quite difficult for teenagers with their limited knowledge about cancer and its treatment. Several adolescents in this study have tried to find information related to their illness. This shows that there is a need for information related

to their disease. Below is a statement indicating that adolescents need information regarding the cancer they are suffering from, namely:

"...you've been asking for a long time "Mom.. What is leukemia?" right..After I got better I was told.. "ALL, leukemia is blood cancer.."(P3)

"Well, if people get sick with cancer, it's hard... many people die, their bodies are definitely different from normal people..."(P5)

"..Looking for the website.. Often (read)..if for example I'm at home, there's no program anymore, no playing futsal..when I'm right in front of the computer looking around.." (P7)

Therapeutic Communication Needs

The experience of adolescents dealing with non-therapeutic health services makes these adolescents feel sad. From the words of a health worker who was not quite right in providing information to adolescents, this led to adolescents expressing their desires and needs for better health services. The statement of the need for therapeutic communication is as follows:

"The way to convey it is rude, if it's gentle it's okay sis G accept if that's the situation right... What should the doctor be like that... That's if the pediatrician gives G enthusiasm like that..."(P2)

The Need for Friends and Entertainment while at Home Sick

Participants who often self-medicate in the hospital without being accompanied by their families feel the need to be accompanied and need the presence of close friends. Besides that, the need for entertainment because no one accompanied the teenager while in the hospital was also expressed by the participants. The statement is:

4. Social Dimension

"..I really need friends.. I think friends who are at home, for example, someone comes from home, now it's rare.." (P7)

"(Besides friends) the most entertainment... Usually playing games at home... games on the computer... online games..." (P7)

Adolescents who are in the hospital and undergoing long treatment in the hospital must also be able to develop their psychosocial abilities even though this is limited for them. The results of this study indicate that there is a closer relationship between them with their families and peers even though they must always be in the hospital. The findings regarding the social dimension in this study are schematically as follows:

Relations With Family

Adolescents with cancer in this study felt that while suffering from cancer and undergoing treatment, their relationship with their families felt closer and closer. Parents feel more concerned with always looking after them and love them more. Statements of several participants regarding their relationship with their parents and families, as follows:

"Since I've been going back and forth like this, right... I rarely meet younger siblings, rarely see older siblings... So once we meet, it's like I don't want to separate like that... I want to be together.."(P1)
"It's different... before you were sick, you were normal.
"(closer) at least with mom... the problem is that you work all the time... It seems that your parents love you more, care more about A." (P7).

Relationships With Peers

The relationships of adolescents with cancer with their peers can include relationships with their friends at home or with friends they form while in the hospital. Even though there were participants who were shunned by their friends, other participants acknowledged that maintaining friendships while suffering from cancer made teenagers feel more enthusiastic in dealing with their cancer. The statements of some of the participants can be seen as follows:
"But that's what a friend's name is, still giving encouragement.. still want to come to the house like that Sick .. The students are just junior high school students..”(P1)
"..Yes, give encouragement, if G has arrived here, right "G, you can't eat just anything anymore". He really cares sis...” (P2)
"But now maaah.. so her friends stay away like that.. ..my best friend stays away.." (P3)
"Yes, keep on cheering up.. "Anyway, don't be sad.. N will definitely get better."
"In fact, I'm happy... because I can share, I can share, I can give experiences..." (P7)
"Certainly... if A's friends aren't around, I don't think I'm excited.." (P7)

5. Dimensions of Self-Concept

The results of this study also indicate changes in the dimensions of self-concept that appear in adolescents with cancer.

Feel embarrassed

Feelings of shame appear in adolescents with cancer related to the physical effects of cancer treatment, indicating a change in adolescent self-image. Their different physical appearances made them feel embarrassed. The statements from several participants that showed this feeling were:
Yes, it's already embarrassing, like this "Why is the hair like this???" right.. (While quoting his friend's words to G) (P2)
"..just like yesterday I took a photo together.. had to take off my hat, take off my mask.. They laughed at it.. When I took off my hat the children laughed at it.. When I laughed about it.. It's embarrassing, isn't it.. Where's the photo in in the middle of the field right..” (P3)

Feeling cared for differently and shunned by friends

The experience of adolescents with cancer who feel cared for differently and shunned by their peers, makes these adolescents assess

themselves as individuals who are different from other peers. Statements of adolescents regarding this experience are:
"Every time I pass by, just look at me.. Sometimes I'm walking, I like to talk about it.." (P3)
"Then why is it that when I enter like that, the feeling when I enter like that, when you look at it like that, looks like someone like that.."(P3)
"But now maaah.. so his friends are moving away like that.. I am, yes, my thoughts are "do I have a disease like this time" how come he is away.. "Is he afraid of catching it? What are you afraid of?" I think so.." (P3)
Feel different
Feeling different arose from other participants who felt that some of their physical activities were limited due to their cancer condition. The statement can be seen as follows:
"Sad.. People can but we can't.." (P2)
"It's not good... it's like someone who isn't normal... yes, it's different from other people... yes, they can go for long walks, I don't... (laughs). P5)
Feeling Dependent on Others
Feeling dependent and unable to carry out personal activities independently is also a change in the dimensions of the self-concept of adolescents with cancer. The feelings of dependence are as follows:
"I can only lie on my back in bed when my legs can't be bent like that, I can't bend them, I just have to order them around.."(P1)
"I was carried everywhere by my parents.. ..I can't do anything anymore.. If you want to pee, you are carried to the bathroom.."(P3)
"The problem is that mom was also pregnant for the first time, sorry to see it... if A could do it alone, A would have done it..." (P7)
Trying to Do Activities Independently
The existence of a feeling of dependence on others encourages adolescents to try and try to carry out activities independently. Participant statements that show this are:
"...I want to do something by myself... The mother is nagging herself.. Even though she meant to be alone so it wouldn't be too much trouble.."(P1)
More Oriented To Physical Health
Another dimension of self-concept is the adolescent's orientation towards their physical health. This orientation towards physical health is driven by several things, such as so that they can return to how they were before they were diagnosed with cancer. the statement as follows:
"Yeah, I also thought about it... But I don't want to think about it too much... If I really think about it, I'll drop like that... It's like working on that time, doing try outs... Do you think about it? ..Health first deh..."(P3)

"Yes, it's okay, the important thing is to recover..." (P6) (P7)
"Ready (undergoing treatment).

Self Oriented

The nature of the developmental stages of adolescents who are more autonomous from others, makes them more self-focused, do not want to be forced and tend to try to decide their own problems. Some of the statements below, support the existence of a picture of self-orientation in adolescents with cancer:

"Yes sis but I want to get well" (P1)
"For example, if I don't want to go to school... If, for example, I am forced to go to school, I still don't want to... I am forced, I don't want to.."
"Yes, but I don't want to have chemo anymore... the point is, I've just recovered..." (P5)

6. Activity Dimension

In adolescents with cancer, some of their activities are limited as a result of a direct response from the disease or from treatment that affects their physical condition.

No Activities

Some teenagers choose not to do activities related to the physical condition they feel due to treatment. The statements of some of the participants are as follows:

"..since I got chemo-chemo, I became lazy.."(P1)

Changes in School Activities

All participants in this study experienced school absences because they had to undergo routine and lengthy treatment at the hospital. School absences experienced by teenagers can occur within months, even a year and they have to experience staying in class. Participant statements regarding changes in school activities can be shown as follows:

"So in semester 1 I was still taking lessons like that... When I entered semester 2, I was immediately told to go back and forth, so there were lots of holidays (school permits)."
"I didn't go to school for six months...I started school when I entered maintenance, because when I'm still in protocol one (protocol two is maintenance) if protocol one isn't there, there's no time for school.."(P3)
"Yes, I really want to go to school, but what else can I do..." (P6)

Limiting Activities

Changes in physical condition due to cancer and its treatment are felt by adolescents to be difficult for them to carry out strenuous activities, such as exercising and thinking hard. Statements of participants related to this are as follows:

"The biggest problem is every sport...the others are sports, I stay alone in class..."(P4)

"Afraid of getting dizzy again if you think too much.. The problem is now that I'm in SMK, so there are a lot of assignments.. like that.. I don't want to be like that anymore.." (Crying) (P6)
"Still (playing Futsal), it's just normal... mmm I think it's a little different, gets tired faster... At least I've played for 15 minutes... (before getting sick) every day..." (P7)
Keep Continuing Learning
For teenagers who miss studying when they have to be in the hospital, some of them actively try to take part in the learning programs held in hospitals and in shelters. The participant statements regarding this matter are as follows:
"It's just like that, sometimes when I'm in the hospital, I'm taught by the library, right? MTK lessons" (P4)
"Nothing (no school activities). Q7)
7. Hope and Seek to Recover from Sickness
Hope To Recover From Sickness
In adolescents who are diagnosed with cancer and undergo cancer treatment, they increase their hopes to be free from the burden of cancer and its treatment. This hope was felt by several participants as conveyed by them as follows:
"Hopefully it'll get better soon, I'll be able to walk quickly, I'll be able to help my mother like that... so it won't keep bothering me.."(P1)
"Recovered... I'm free, I'm no longer in control... so I don't go to the hospital to the hospital again..”(P4)
"Yes, I want to get well soon.." (P6)
"Of course the hope is that I want to recover... I can get well soon, I can go to school like before... I can play with my friends again..." (P7)
Efforts Made To Be Healed
From the hope that they built so that they could recover from their illness, they could do several things, such as praying and being obedient to therapy and medication. Participant statements that support this are:
"Enthusiasm, then be diligent.. Be diligent in taking medicine so that you get well soon.. Then you have to eat.."(P2)
"..read the prayer... "O Allah, heal S", "Heal S from the disease that S is experiencing", "strengthen parents" ... "to treat me"(P3)
"So, you don't want to be late, you have to be right (undergoing chemo).. even if you can't get a room that day, you have to wait all the time..." (P7)
Efforts to Motivate Yourself
Apart from making real efforts to fulfill their hopes of being able to recover from cancer, they also try to increase their self-motivation to better support the real efforts they are doing as described above. As for the efforts to motivate themselves, it can be seen in the statement excerpt below:

"I want to be enthusiastic.. Excited so that I can be active again like normal people like that.."(P1)
"Believe me, you will get better sis.. Yes, I can do it for mom and dad.."(P2)

Discussion

The discussion of the results of this study will explain each theme that emerges as an illustration of the process of adaptation of adolescents in dealing with cancer. The eight themes that emerged as a result of the findings in this study will be discussed in detail and linked to some of the results of previous studies related to the experiences and adaptations of adolescents in dealing with cancer.

Physiological Responses and Adaptations

The physiological response felt by adolescents with cancer is closely related to the response due to disease and the response due to cancer treatment. Signs and symptoms caused by cancer in the body have different variations for each individual and the type of cancer experienced. In general, physical signs and symptoms felt by children with cancer include: unusual mass growth or swelling, loss of energy and paleness that cannot be explained, symptoms of bruising on the body that appear suddenly, persistent and localized pain, unexplained fever, frequent headaches, frequent vomiting, changes in vision, and excessive weight loss ((25). Some of these physical signs and symptoms were also experienced by adolescents with cancer in this study.

Treatment and therapy undertaken by adolescents with cancer in this study included chemotherapy, light therapy, and surgery. Each of these medical therapies also has effects that are very difficult for them to deal with. The effects of medication therapy experienced by adolescents in this study in general were nausea and vomiting, oral mucosal injury/sprue and changes in taste on the tongue, hair loss, and fatigue. The therapeutic effect experienced by these young participants is an effect that is generally felt by other age groups with the same type of cancer therapy. The effects of cancer therapy that are commonly experienced by cancer patients undergoing treatment include symptoms of nausea, vomiting, sloughing of the mucosa of the digestive tract, hair loss, erythema and fatigue (26)

The existence of a cancer diagnosis that occurs and the impact of the treatment process that must be undertaken at a young age, as experienced by the adolescents in this study, is a stressful life experience and very difficult for them to deal with. This condition requires their ability to be able to overcome the situation and achieve good adaptation (27) Based on the physiological response that occurs, both caused by cancer and its treatment therapy will be faced differently for each individual.

The adaptation of adolescent cancer sufferers related to the physiological responses found in this study is closely related as an effort to overcome the symptoms caused by the effects of the treatment they are facing. The findings in this study indicate the efforts made by adolescents with cancer include asking nurses or doctors for medicines to relieve pain and drugs that can prevent nausea and vomiting, eating candy and drinking sweet drinks to reduce changes in taste on the tongue, as well as reducing activity and resting in bed to overcome fatigue. Some of the findings of this study are in line with the findings in a study conducted by Haque et al (28) that uncontrolled nausea and vomiting, pain and fatigue cannot be treated effectively with medication. So that in this study it indicates that sufficient activity and rest can maintain optimum conditions of the physiological status of the body of adolescents with cancer (Fayers et al., 2002).

Teenagers also respond to the effects of treatment from hair loss by wearing hats and shaving their hair off for boys, while girls use hats, headscarves and wigs. The findings of this study are also supported by the research of Cruz-Jentoft et al (30) where adolescents with cancer use wigs and hats as an effort to deal with the effects of treatment and to avoid feelings of embarrassment due to physical changes in hair loss. Some of the adaptations made by adolescents with cancer to overcome the physical symptoms caused by cancer and its treatment in this study, when viewed from Roy's adaptation concept, these adolescents have used adaptive adaptation efforts. Adolescents responded to the stimulus from the condition of cancer and its treatment by reducing activity and increasing rest. This effort is an appropriate action to achieve the physiological integrity of the diagnosis of cancer (Dieli-Conwright et al., 2021).

Psychological Response and Adaptation

The psychological responses shown by the adolescents in this study both related to the diagnosis of cancer and the effects of the treatment can consist of various kinds of psychological responses. The psychological responses of cancer adolescents found in this study were grieving processes, fear, emotional feelings, boredom in being in the hospital, and feelings of uncertainty .

The existence of a cancer diagnosis in adolescents is felt as a grieving process that is very difficult for them to deal with. The grieving process generally occurs in 5 stages, namely: denial, anger , bargaining, depression or sadness, and acceptance (references). Teenagers in this study generally responded with shock and disbelief when they first found out that they had been diagnosed with cancer . Even for a teenager who had to face the amputation process, it felt quite heavy and made the teenager experience a process of rejection for quite a long time. Furthermore, some teenagers show a sense of anger that often arises during the process of undergoing cancer treatment. This

angry response is generally aimed at health workers when they have to provide health interventions to them. Despair and deep sadness due to an enlarged facial tumor were also felt by the adolescents in this study as a stage of depression (depression) in the grieving process, so that at this stage the adolescent had no time to undergo treatment. However, after adolescents have undergone cancer treatment or therapy for some time, adolescents begin to feel that their condition is changing towards improvement, and at this stage is the stage where adolescents begin to accept (acceptance) all circumstances and feel that they must continue to undergo cancer therapy in the hope of being able to fight back. the cancer.

The findings in this study are also supported by research conducted by Grazioli et al (32) which states that a diagnosis of a chronic disease in children can cause mental shock , stress, sentiment or anger and an increase in the intensity of relationships with parents. It is also said that children with chronic illnesses become very difficult for them to accept the diagnosis and treatment they must undergo. Feelings of guilt and believing that the suffering they experience is a punishment for them for the sins they have committed, are also felt by children with chronic illness diagnoses (Maridaki et al., 2020).

Psychological responses related to uncertainty experienced by adolescents with cancer in this study are closely related to adolescents' perceptions of cancer and the symptoms they feel. The concept of uncertainty theory in patients with cancer and other chronic diseases is also discussed in the nursing theory developed by Merle H. Mishel, where the theory is centered on the concept of feelings of uncertainty, which is described as "the inability to determine the meaning of disease-related events" (34). This shows that there is an inability of patients to recognize or classify their stimuli or do not have the ability to obtain a clear conception of the disease situation, giving rise to uncertainty (Ntanasis-Stathopoulos et al., 2013).

Other research findings that also support the existence of uncertainty in adolescents with cancer are the opinions of Kelly et al (36) who also state that psychological responses are in the form of emotions with a very wide range, and the presence of uncertainty (uncertainty) about disease is the main key to there is anxiety, and distress that can persist until the end of treatment. Boscher et al (37) also states that the effect of a cancer diagnosis on adolescent psychology depends on the stage of treatment they are undergoing and the side effects of treatment, such as hair loss, nausea, vomiting, skin changes, pain and insomnia. This is very closely related to the psychological tension and burden they have to face (Ntanasis-Stathopoulos et al., 2013).

Various adolescent psychological responses that emerged in this study were responded to by these adolescents in various ways. Findings about psychological adaptations made by adolescents with cancer in

this study were expressing resentment, running away from treatment, being indifferent to the ridicule of friends, controlling the environment to be calm, and carrying out activities to relieve boredom due to hospitalization. Along with the results of research conducted by Lovelace et al (Lovelace et al., 2019) regarding the efforts of adolescents with cancer to control their psychological conditions, it was found that adolescents more often show a loss of control over medical conditions than personal and social dimensions. Loss of control that occurs in adolescents in this study can be in the form of expressing resentment and running away from treatment.

The results of other studies related to the psychological adaptation of adolescents with cancer that support the results of this study are the efforts of adolescents to achieve self-control. These efforts include problem-focused coping and emotion-focused coping. In problem-focused coping the goal is to change the environment or one's own situation in response to stress, and this is associated with high expectations of control. Meanwhile, emotional-focused coping aims to overcome emotional distress, and tends to be used in situations that cannot be controlled (39). This study also found problem-focused coping, namely: efforts to control the environment to feel calm due to the intense pain felt by adolescents, carrying out activities in an effort to change one's own situation to overcome boredom during hospitalization, and being indifferent to the ridicule of friends. Emotionally focused coping in this study is an attempt to vent feelings of irritation and escape from treatment.

Psychological adaptations made by adolescents to overcome their psychological conditions due to a cancer diagnosis and treatment are part of the self-concept adaptation mode as defined by Roy. The psychological response of adolescents is generally related to the physical changes that occur which can change the self-image, self-consistency and self-ideal of adolescents with cancer. The achievement of psychic integrity through various efforts made by adolescents in this study, shows the achievement of the goals of Roy's self-concept mode (Islami et al., 2018).

Dimensions of Need

The dimensions of needs in adolescents with cancer are also a theme that emerges to be discussed further in this study. The findings related to the needs of adolescents with cancer in this study include: the need for information related to cancer and cancer treatment therapy, the need for a sense of calm, the need to get health services with therapeutic communication, and the need for the presence of close friends and entertainment. Along with research conducted by Ishibasi (2001) regarding the need for information and social support in children and adolescents with cancer. This research shows that the high level of uncertainty about cancer experienced by adolescents and the

frequent absence of school to undergo treatment at the hospital, makes adolescents express a real interest in the need for information and social support (Rositch et al., 2020).

Adolescents' need for information related to cancer diagnosis and side effects of treatment is their attempt to control the difficult situation they are facing. Based on research conducted by Till (2004), adolescents with cancer find it easy to understand what is really happening to them through the information provided by health workers. The information they get becomes one of the efforts to gain control in helping them beat cancer. Likewise the findings in this study, adolescents with cancer seek information through the internet to better understand the disease conditions they face and the treatment they have to undergo, as well as the side effects they have to face.

Social Dimension

Adolescence is the age when they begin to explore themselves to seek freedom and develop self-autonomy from their parents, and expand relationships with peers (Soetjiningsih, 2010). The existence of cancer that occurs in adolescents makes their relationships with peers and family change.

Based on the results of research conducted by Ilbawi & Velazquez-Berumen (42) adolescents with cancer have developed 2 forms of peer groups, namely: the friends they have at school and the friendships they form while they are in the hospital. The teenager uses these two forms of relationship for different reasons. Some of them feel protected and looked after by their close friends because of their weak condition when they have to return to school. However, other teenagers have felt that their friends at school just don't know what to do, they don't even greet each other and talk to them anymore. While the friendships formed in the support group while in the hospital make them feel comfortable, because this peer relationship provides great support for them to be able to share with each other and what they will experience related to the treatment they each face (42).

The results of research conducted by Ilbawi & Velazquez-Berumen (42) also support the findings in this study, where adolescents who have not been active in school for a long time have found it difficult for them to establish close relationships as before when they had not been diagnosed with cancer. There was even a participant who felt shunned by a friend who had been a place for them to share. In addition, it becomes difficult for them when they have to deal with other friends who make fun of their physical condition because of the effects of cancer treatment. On the other hand, other teenagers think that their friends at school and around the house really provide support which they think can help them be stronger to face cancer and its treatment. Their peers always pay attention and always monitor the development

of their physical condition. There was even a participant who stated that he would feel uninspired without friends.

While in the hospital they also establish relationships with other peers who are also cancer sufferers. Connecting with peers who are in the hospital apart from being a place for them to share information, it is also an activity for them to avoid the boredom they feel while in the hospital. Having friends while in the hospital can motivate them to mutually motivate themselves regarding their experiences in dealing with cancer therapy.

Families, especially parents, play a very important role in achieving adolescent adaptation to cancer. Parents and family are the main and first thing in providing social support for them (42). Likewise the findings in this study, adolescents generally feel more comfortable and get more love and attention when they are in the hospital, although several other participants stated that sometimes their parents were often not present beside them because they had to keep working.

The existence of their parents beside them and the closeness of the relationship with the family, especially with parents when facing a cancer diagnosis and treatment, is the main social support that helps adolescents achieve self-adaptation to cancer. Maintaining relationships with peers is also a form of support needed by adolescents with cancer. The adaptation process formed through close relationships with parents and peers is the result of efforts to "give and receive affection, respect and appreciation". The existence of a support system that refers to achieving adequate feelings of affection is the main goal of the interdependent mode (Rositch et al., 2020).

Dimensions of Self-Concept

Self-concept is recognized as all thoughts, beliefs and beliefs that constitute the individual's knowledge of himself and affect his relationship with others. Self-concept consists of body image, self-esteem, ideal self, role performance, and personal identity (43). There are several factors that affect individual self-esteem, some of which are dependence on others and a lack of ability to be responsible for oneself (43). The results of this study indicate that there are difficulties for adolescents in dealing with the physical changes experienced due to cancer and the side effects of cancer treatment. Their hair loss as a result of cancer treatment, makes them feel ashamed and seen by others differently. In addition, teenagers feel dependent on others and feel helpless because of physical limitations caused by cancer in their bodies. This response was responded by adolescents with efforts to focus more on physical health and make them more focused on undergoing treatment. Trying to carry out activities independently and continuing to take medication are the positive things they do regarding their condition. In contrast to the results of research conducted by Hoque et al (28) which shows that changes that occur in the body's

condition due to cancer can affect adolescent social relations. In addition, children and adolescents with cancer have a more negative self-concept than the control group. This negative self-concept is shown through negative evaluations by adolescents of their behavior, appearance and achievements at school, as well as demonstrating feelings of unhappiness (28).

Based on Roy's theoretical concept, the change in physical condition due to the side effects of cancer in this study was initially responded by adolescents as a condition of embarrassment, feeling different from other people and feeling dependent on others, and feeling helpless. However, this was responded to by teenagers by trying to carry out activities independently, using hats, wigs and headscarves to cover hair loss and focusing on achieving physical health by continuing to undergo the treatment process. The adaptation made by adolescents in this study is an adaptive self-concept adaptation. In accordance with Roy's theoretical concept, where Roy states that the existence of psychic integrity is the goal of the individual's self-concept mode (Reeves et al., 2021).

Activity Dimension

When teenagers have to concentrate on facing the long process of cancer treatment, some of them continue to go to school when they have to continue undergoing treatment. However, some others often have to be absent from school for months or even a year, as a result of complications/the nature of the cancer or the effects of cancer treatment (Dieli-Conwright et al., 2018).

In adolescents with cancer in this study also showed absences from school for quite a long time, and even had to leave class because they had to complete the cancer treatment process. It was also acknowledged by adolescents that while undergoing treatment and having to be absent from school, their academic performance decreased. The findings in this study are supported by research from Ochi et al (46) which states that the existence of a cancer diagnosis and its treatment process can lead to academic failure and failure of matters related to adolescent school absences, so that it can affect the future of adolescents with cancer. The existence of support to maintain school during illness, allows youth to avoid declining academic performance and is an effort to maintain their social status as students.

In adolescents with cancer, they are likely to recognize how much cancer has disrupted themselves and their family lives, and how the demands of treatment have interfered with their normal attempts to become more autonomous from their current parents. Adolescents also try to focus on maintaining social relationships, but are also less aware of the side effects that limit their ability to function (NASW, nd). This literature also helps explain and forms the basis of the findings that emerged in this study regarding the activities of adolescents with

cancer during the treatment period. The effort they make regarding the dimension of activity in maintaining social relations is that they try to keep playing as usual and want to continue to be with their friends when they return home. However, some other teenagers try to limit their activities including playing. In fact, there are teenagers who don't want to do any activity because of their perceived physical weakness or their fear of physical conditions which can easily decrease due to strenuous activity.

Based on the findings in this study and when supported by other related studies, it shows that the activity dimension in adolescents with cancer is closely related to their role as a student and refers to their role in social groups or peers. So when it is associated with Roy's adaptation nursing theory, the activity dimension in the findings of this study is a mode of adaptation to the role function of a young person with cancer. As Roy stated that the role function played by a person refers to the primary, secondary, and tertiary roles in social groups. The achievement of the social integrity of adolescents with cancer through their involvement in the learning process at the hospital, as well as maintaining relationships with peers when they return home are the main objectives of the role function mode (Dieli-Conwright, Courneya, Demark-Wahnefried, Sami, Lee, Sweeney, et al., 2018).

Hope and Seek to Recover from Sickness

According to Lee et al (26) the concept of hope is identified as part of a class of concepts that include coping, belief, resilience, and strength. Javne also considers hope to be indispensable in dealing with chronic illness. Hope is also known as a value that can affect an individual's ability to respond to illness, so that in adolescents with cancer there is a close relationship between hope and adaptation to their health status (48). In another study, Luca et al (49) found a high expectation in adolescents with cancer and suggested that the presence of this expectation characteristic at the start of treatment could be a protective function.

The findings in this study indicate that all adolescents with cancer have great hopes that they can reach their original condition before they were diagnosed with cancer. The hopes they convey are closely related to their experience of cancer and their psychosocial relationships, such as hoping that they will not feel the same illness again, hoping to be able to go to school and play as before, hoping not to bother their parents and depend on others, and hoping not to depend on medicine anymore like a healthy person. The existence of these expectations makes them strive to realize their hopes through several actions. The efforts they make are praying, praying at night, taking medication regularly and not even wanting to be late for treatment, and continuing to motivate themselves with all the beliefs they have. In fact, they try to drive away negative thoughts by forgetting or not thinking about

things that make them feel worse about their disease and cancer treatment.

Based on research conducted by Lee et al (27) in children aged 8-18 years, the interview results show that patients who are full of hope and with a low level of hopelessness are very important in terms of coping and reduce patient anxiety. It was also concluded that the existence of high expectations of patients can be a very important variable in understanding the level of self-concept and coping methods used by cancer patients aged children and adolescents.

The description of the hopes and efforts of adolescents with cancer to be able to face the diagnosis and treatment of cancer is closely related to the self-concept of adolescents regarding their spiritual characteristics. Hoque et al (28) stated that the adaptive mode of self-concept refers to the psychological and spiritual characteristics of individuals. Thus, the achievement of the psychological integrity of adolescents with cancer through hope and spiritual approach and high motivation to recover is the main objective of the self-concept mode (Stefani et al., 2017).

Research Limitations

Researchers found several limitations in the overall process in this study. These limitations are: limitations during the interview process and during the validation of interview results. Limitations in the interview process were felt when researchers interviewed one of the participants who was in a weak condition and was attended by almost all of his family members, making it difficult for researchers to dig deeper into the experiences and adaptations that adolescents experience. In addition, another limitation was that the validation process for 3 participants could not be carried out directly, due to the conditions of the participants who could not be found. For this reason, the validation of the 3 participants can only be done via telephone.

Conclusion

Diagnosing cancer at a young age and the treatment process that must be followed are difficult things for teenagers to face. Pediatric nurse specialists as child nursing service providers, are required to be able to provide appropriate services for these adolescents. The most important thing for pediatric nurses to do is to assist young people with cancer in choosing the right adaptation strategy so they can go through the process well. Real forms of action that can be taken by pediatric nurse specialists are to approach adolescents like peers but still focus on therapeutic relationships, be a good listener for adolescents with cancer, dig up information related to experiences and adaptive abilities that adolescents have, provide education, provide opportunities in

adolescents related to independent decision making, as well as increasing their motivation through family support and peer groups formed in the hospital.

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