小児がん患者の resilience と self-esteem に関する研究
(Resilience and Self-esteem in Adolescents with Cancer)

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Profile

Children and adolescents with cancer experience multiple stressors, nevertheless some function well and / or are "resilient." Focusing on resilience of cancer patients in childhood and understanding why and how resilience develops during the cancer experience are of great value. The purpose of this study is: 1) to understand resilience of Japanese adolescents with cancer comparing to one of adolescents cancer patients in the United States, 2) to use findings to develop a proposition for the Japanese adolescents, and 3) to share the proposition with physicians, nurses, other health professionals, families, and school teachers to support the adolescents to promote resilience.

The literature review was done in 2000. Research method used was a case study. After operating pretest in 2001, semi-structured individual interviews had been conducted from 2001 to 2002. All interviews were conducted face-to-face and were audiotaped. The participants were 7 adolescents with cancer from 11 to 18 years of age. Five of the adolescents were told the name of their disease and two of them were not. Analysis was used a pattern-matching logic which compared a pattern with a proposition. In this study, a pattern was the self-sustaining process of Hinds and Martin.

This research report includes three parts. First part is literature review related resilience of cancer patients in childhood. Results of this study suggests that the self-sustaining process of Hinds and Martin may be applicable for understanding how adolescents with cancer develop their resilience. Second part displays a pilot study that was conducted on adolescents with congenital heart disease for methodological investigation. In last part, research method, results, and discussion are presented. The outcomes suggest that Japanese adolescents with cancer who are told the name of their disease are resilience. The adolescents used the different strategies depending on their stages of prognosis and therapy. The adolescents who were newly diagnosed seemed to think reality about their developmental task such as going to school and study at near discharge. However, the adolescents who were in relapse indicated that they began to use such realistic strategies when they receive their therapy. These outcomes suggest that adolescents with cancer may develop their 1resilience more effectively if they use certain strategies in a certain phase of cancer experiences. Nurses, physicians, school teachers, families, and other professionals should supports the individual adolescents with such approach. Also, the adolescents who are not told the name of disease show their resilience unclearly. This finding indicates that further research needed to study about resilience in the adolescents in future.

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研究発表

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3）Ishibashi, A & Ueda. R. Resilience in adolescents with cancer. Journal of Health and Nursing. 2004, 8 (投稿予定)

2．学会発表

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PART I

Resilience in Adolescentws with Cancer

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With improvements in cancer therapy, over 70 % of childhood cancer patients survive for 5 years after diagnosis (Tsukimoto, 2002). Research has increased regarding the cancer experience and it's potential to put adolescents with cancer at risk for developing cognitive, emotional, and behavior problems (Zevon et al., 1987). Many children and adolescents may develop psychological problems from such life stresses, but others function well or are "resilient " (Luthar & Zigle, 1991). Researchers have spoken about the need for studies related to resilience of cancer patients during childhood. Such studies may develop information about passive interventions for improving resilience and lead to promotion of quality of life in children and adolescents with cancer (Haase, 1997; Woodgate, 1999b).

Studies about resilience in children and adolescents with cancer have conducted to promote their quality of life in the United States and Europe. In Japan research for resilience in the childhood cancer patients is new and has just started. The purpose of this study is: 1) understand resilience of Japanese adolescents with cancer comparing to one of adolescents cancer patients in the United States, 2) use findings to develop a proposition for the Japanese adolescents, and 3) share the proposition with physician, nurses, other health professionals, family, and school teachers.

Review of the Literature

The literature associated with the study of resilience in childhood and to address what is meant by resilience in childhood cancer patients was reviewed . These include: (a) the history of resilience in childhood cancer patients; (b) the concept of resilience as defined by Rutter; (c) a resilience model for adolescents with cancer; (d) coping in children and adolescents with cancer. Recommendations and implication for research and practice are discussed.

1. History of Resilience in Childhood Cancer Patients

During the past two decades, resilience in children and adolescents has been studied in the areas of poverty, behavioral problems, and substance abuse in the United States (Stewart et al., 1997). In 1950s and 1960s survival rates of adolescents with cancer were low. Researchers studied about the care of the dying child, negative responses to cancer, and maladjustment behavior (Eiser, 1994). Because of development of better treatment methods, survival rates of childhood cancer patients increased in the 1970s and 1980s, and research focused on cognitive developmental tasks and revealing the diagnosis of cancer. The disease interferes with the normal stage of cognitive development. However, some studies found that self-esteem and self-efficacy in childhood cancer patients were high (Eiser, 1994). Also, when children were not told about their illness, they picked up hints from adult conversations and imagined that their situation was hopeless (Bluebond-Langner, 1978). Because of their condition being kept secret, children with cancer felt isolated and withdrawn from their families (Deasey-Spinetta & Spinetta, 1981). These findings contributed to a shift in theoretical emphasis from negative side effects to the positive side of coping and adjustment.

Since 1990s, studies about living with cancer have come of age. Resilience has been studied in childhood cancer patients in the 1990s. Research on coping, adjustment, and adaptation in childhood cancer and cancer survivors has been conducted (Enskar et al., 1997; Novakovic et al., 1996; Nichols, 1995; Weeks & Kagan, 1994; Glasson, 1995; Enskar et al., 1997; Hockenberry-Eaton & Minick, 1994; Hinds et al., 1999; Boy & Hunsbeger, 1998). Also, research on adolescents with cancer showed that revealing the diagnosis and giving information were involved in the planning and decision-making about treatment and gave realistic hope (Dunsmore & Quine, 1995). Children and adolescents with cancer were normal children who were forced to cope with extraordinary circumstances. This idea led to attention on concepts such as "resilience" and "coping" (Eiser, 1994).

However, these concepts were difficult to use practically because they could not be placed in a meaningful theory. In order to put empirical findings to work usefully, adequate theoretical models were needed to organize them. A model for resilience of children, fortunately, was recently developed by Rutter (Woodgate, 1999a).

2. Resilience as Defined by Rutter

According to Rutter (1987; 1990), people who develop disorders have frequently suffered from greater risks experienced over a long period of time. However, Rutter has found that the experience does not seem to be the whole story, but has been turned into resilience.

1) Clarification of Protective Factors

Rutter (1985) reports that researchers have tried to make a list of protective factors. Based on this, Rutter began to clarify factors that may be involved as possible mechanisms. His model has seven key points. First, a person's response to any stressor will be influenced by his situation and by his capacity to incorporate stressors into his or her belief system. Age also influences the response to stressors because of level of understanding. Second, dealing with life stressors, people may not use particular coping strategy so much, but they do act-not simply react. Next, people's ability to act positively is related to their self-esteem, self-efficacy, and problem solving skills. Fourth, self-esteem and self-efficacy may be fostered by stable and affectional relationships, by success, achievement, and positive experiences, as well as by temperamental attributes. Fifth, such personal qualities may operate through their interactions with and in their responses to and from other people. Moreover, coping with stressful situations can be strengthened through their life. Successfully facing stress and increasing social competence through control and suitable responsibility promote resilience. Last, all the evidence shows the importance of developmental links. According to Rutter (1985), protection does not primarily lie in the protection of supportive factors or operation at one point in time or over a prolonged time period. Rather, protection, the quality of resilience, settles in how people deal with changes of life and what they do about their situations. Protection is also influenced by experiences in early life, during later childhood and adolescence, and by circumstances in adult life.

2) Vulnerability and Protective Mechanisms

The concepts of vulnerability and protective processes are more specific definitions than that of resilience. The essential feature of the processes is an adaptation of the person's response to the risk situation. Initially, the processes require vulnerability or protection to react to a factor that leads to a maladaptive outcome. It must be in some sense "catalytic" so that it changes the effect of another variable, instead of changing the effect of its own. In this reasoning vulnerability and protection are the negative and positive poles of the same concept. This interactive mechanism is used for both vulnerability and protective processes. Protective processes are preferred over vulnerability processes when a negative direction is changed into on adaptive one, but vulnerability processes occur when an adaptive direction is turned into a negative one (Rutter, 1990) (Figure 1).

3) Protective Processes

Rutter (1987; 1990) has not defined vulnerability processes clearly. Immunization does not involve positive physical health directly. Vulnerability factors are like lack of immunization and lack of preparation. Also, vulnerability processes, as opposed to protective processes, are reported to occur when a previously adaptive trajectory is turned into a negative outcome. Rutter (1993) has discussed the influence of protective processes. Protective processes may include three features. First of all, the protective processes reduce the impact of the risk by characteristic or through alteration or involvement in the risk. The processes reduce the chance of negative chain reactions that come from the risk, as well. Also, through secure and supportive personal relationships or success in task achievement, self-esteem and self-efficacy are promoted. Moreover, the protective processes come to be viewed as opportunities of a positive kind. Protection lies in how people deal with changes in life and what they do about their stressful or disadvantageous circumstances. In that connection, the mechanisms as developmental processes need to be emphasized to cope effectively with future stress and to overcome past psychosocial risks. This includes the psychological operations related to mechanisms of turning points in people's lives when a risk may be redirected to a more adaptive direction. At turning points it appears helpful to use the protective process.

4) The Origins of Resilience

Resilience could lie in both preceding and succeeding circumstances. According to Rutter (1993), resilience is suggested by five key concepts. First, potential turning points in people's lives are important in connection with the preceding and succeeding circumstances. People who seemed set on a maladaptive life are able to turn it to a more adaptive direction. The turning points enhance resilience in adult life. Next, success in one arena gives people positive feelings of self-esteem and self-efficacy to have the confidence to deal with life's challenges. The experience of pleasurable success is helpful to enhance the self-concept that promotes resilience. Moreover, there are individual variations in vulnerability to adverse experiences that come from accepting or steeling experiences to the risk at early age. Resilience usually settles in the struggle with stressors for a time, but not in the escape from risk experiences, or only in positive health features or good experiences, rather it is the case that unpleasant events may in fact strengthen people. When people have coped successfully with stressful experiences, steeling effects are more likely to come. Fourth, individual differences in vulnerability may derive from personal characteristics. Two key features may be mentioned. Personal features are influenced by environment. They are also influenced by how people respond to particular stressors. In other words, the interaction between people and their environments may lead to a positive direction. Lastly, how people assess their circumstances is important. The same event is viewed quite differentially by different people. It is important to access life's challenges with a positive mind, with confidence to deal with risky situations, and with the capacity to adapt it to one's own personal style.

5) Invulnerability

In consideration of the phenomenon of resilience, Rutter (1993) has described why the concept of invulnerability instead of resilience is unhelpful. Four reasons are suggested. First, invulnerability seems to express a perfect resistance to damage. However, even individuals who are more resistant than others have their limits. Second, it seems to focus on all risk situations. There is but a range of mechanisms where risk factors are operate and are changed into resilience. Third, the term sounds like a fixed feature of the individual. Yet, resilience may settle in the interaction between social environment and the individual. Finally, invulnerability seems to deal with an unchanging characteristic. That is not realistic because there are developmental changes that will influence resilience.

6) A Consideration of the Study on Resilience

In addition to defining the concept of resilience, Rutter (1993) has advised studying resilience. To begin with, avoiding thought of some single answer to problems of life, researchers should use several different sources of measurement and indication over time. Also, people may suffer in a range of different ways. Resilience is not in terms of the chemistry of the moment either. Therefore, it is necessary to take a much longer time span to view within a developmental framework. Moreover, how the processes influence to increase resilience should be focused upon because of the little existing understanding about protective processes.

3. Resilience Model of Adolescents with Cancer

Considering the gains in survival rates for childhood cancer, an understanding of resilience in adolescents with cancer is essential. Also, interventions that may increase resilience in childhood cancer patients need to be studied. Garmezy (1991) has described protective factors and categorized them including: personality features, family cohesion, and support systems. Based on work of Rutter (1985; 1987) and Garmezy (1991; 1993; 1994), Woodgate (1999a) recently developed a resiliency model for conceptual understanding of resilience in adolescents with cancer in order to help them to increase resilience. The components of the model are stressors of risk situations, protective and vulnerability factors or processes, and outcomes. Woodgate has described relationships between the model's components.

Adolescents with cancer may experience both basic developmental tasks and the stress associated with cancer at the same time. How the adolescent responds to the stressors depends on the presence of vulnerability and protective factors or processes. If the adolescents can deal with a stressful event, their sense of self and social competence will increase. Then, the adolescents may also have more success in dealing with future stressful events. As a result, increased self-esteem and social competence skills, as protective factors, may serve the adolescents to move toward adaptation. Outcomes of resilience are possible in adolescents with cancer. All the components act interdependently. On the other hand, the process will become a vulnerability process when an adaptive trajectory is turned into a negative one (Woodgate, 1999a).

Woodgate has remarked that adapting this model should guide primary prevention programs such as social skills training programs in adolescents who are newly diagnosed with cancer. Moreover, care providers need to be aware that potential dangers exist, such as cultural beliefs. Although adolescents with cancer may show social competence, they may have emotional problems. For instance, if a culture believes the idea that good patients are cured and bad ones are not, then it might believe that all children and adolescents can beat cancer when they try hard enough.

4. Coping in Children and Adolescents with Cancer

Rutter (1993) has described that when people successfully cope with stress, steeling effects come in protective processes and promote resilience. Also, coping strategies including being positive and having hope for the future help adolescents to deal with their cancer experience (Enskar et al., 1997; Hinds & Martin, 1988; Novakovic et al., 1996; Rechner, 1990; Weekes & Kagan, 1994). With these ideas, the research about coping strategies and the self-sustaining process in childhood cancer patients is reviewed (Table 1).

1) Coping Strategies for Hospitalization

According to Foley et al (1993), childhood cancer patients have experienced limitations in normal life because of hospital admissions. In particular, separation from important people, such as peers and family, and school activities may lead to losses in self-identity, self-esteem, academic achievements, and interpersonal relationships. Using a quantitative method, Nichols (1995) conducted a study to assess social support networks and coping mechanisms. As a result of change in friendships of adolescents with cancer because of hospitalization, they may tend to have small and more specific social networks and less contact with others. In addition, Desy Spinetta (1981) identified school-related behaviors of childhood cancer patients by their teachers who filled out questionnaires on the subject. According to this researcher, physical change, the loss of friends, trouble keeping up with school work, and separation anxiety may disrupt the return to school and could cause trouble in school activities and peer relationships.

In dealing with hospitalization, the maintenance of relationships with friends and classmates has been identified as an important protective factor for adolescents with cancer (Rechner, 1990; Enskar et al., 1997; Fowler-Kerry, 1990; Glasson, 1995; Lozowski, 1993; Nichols, 1995; Novakovic et al., 1996; Nichols, 1995). Psychosocial support from other peers diagnosed with cancer was also valued through the sharing of experiences with others in similar situations (Lozowski, 1993; Novakovic et al., 1996; Hockenberry-Eaton & Minick, 1994; Weekes & Kagan, 1994).

The family has also been recognized as a supportive factor to help children and adolescents to cope with the stressors of cancer both physically and psychosocially (Enskar et al., 1997; Fowler-Kerry, 1990; Smith et al., 1991; Weekes & Savedra, 1988; Blotcky & Cohen, 1985). Unfortunately, relationships with parents were altered by increased dependence on their parents and decreased control for adolescent cancer patients during illness (Foley et al., 1993). The adolescents with cancer may also struggle between dependence and independence with support of parents and medical and nursing staff. The adolescents may feel parents are overprotective. This overprotectiveness continued even when their children could be more autonomous. These findings were supported by a study to assess the psychosocial needs of adolescents with cancer. Nine adolescents participated in a three-month support group discussed in group sessions (Orr et al., 1984). This issue aside, however, adolescents with cancer received their greatest support from their parents during painful and difficult situations (Enskar et al., 1997). Through survey by using Harter's Self-Perception Profile for Adolescents and Sawin and Marshall's Future Orientation Scale, Overbaugh & Sawin (1992) stated that their children showed higher levels of perceived self-esteem when parents had higher expectations about their children's future success. Moreover, by a phenomenological study, the establishment of relationships with people such as nurses, school teachers, and other parents has been identified as important as well (Rechner, 1990).

In addition, based on quantitative methods, Boyd and Hunsberger (1998) have described the importance of minimizing distress during hospitalization. Thirty nine school age children and adolescents with cancer in remission participated in the study about their life stressors and coping strategies. Familiarity with the hospital environment may be an important factor. The children believed that knowing the nurses and knowing what to expect made it easier for them to repeat hospitalization. The hospital environment also helped the children to promote their coping strategies during hospitalization. Even though the hospital environment could cause stress, recreational activities such as TVs, telephones, and playroom assisted the coping strategies such as distraction and reduced isolation. The ability to see outside from their hospital bed supported the strategy of distraction.

2) Coping Strategies for Cancer

Researchers have found that the childhood cancer experience is stressful. Uncertainty is the greatest source of psychosocial stress for adolescent cancer patients as well as childhood (Koocher, 1985). Also, childhood cancer patients showed lower self-esteem scores related to school and academic performance than those of healthy children (Mullis et al., 1992).

In dealing with cancer, adolescents with cancer use a variety of coping strategies. Adolescents use coping strategies with physical pain during treatment events. For example, thinking positively, thinking about good things, having as optimistic view, making jokes, and holding hand by a parent, nurse or others during painful treatment procedures were identified (Fowler-Kerry, 1990; Weekes & Kagan, 1994; Weekes & Savedra, 1988; Weekes et al., 1993). Other studies have stated that coping strategies such as being positive and having hope for the future help adolescents with cancer deal with psychological stresses (Enskar et al., 1997; Hinds & Martin, 1988; Novakovic et al., 1996; Rechner, 1990; Weekes & Kagan, 1994).

Using a grounded theory approach, Bull and Drotar (1991) have described the differences in the use of coping strategies with cancer experiences in school-age children and adolescents with cancer. The study found that adolescents used emotional-management coping strategies, but younger children used problem-solving strategies. The authors have thought that the adolescents with cognitive maturity may understand the ineffectiveness of problem-solving strategies for stressors. For example, children with cancer cannot stop their hair from falling out and have little choice about receiving treatment for cancer or its side effects.

Weekes and Kagan (1994) conducted qualitative research focused on cancer experiences and coping strategies before and after completing therapy. Thirteen adolescents who mixed cancer diagnoses aged 11 to 18 years were interviewed at 4 points in time from 3 to 6 months prior to completion of treatment, at time of completion, 3 and 6 months after completion. The adolescents revealed different coping strategies before and after completion of treatment. Before completing therapy, most of the adolescent cancer patients described themselves as different from their peers and their lives as not being normal. However, they tried to lead a normal life. The adolescents used five coping strategies. These included positive thinking, not thinking about treatments, busyness, like the focus on interesting activities, reinterpretation, such as growing closer to family or reducing risky behaviors, and philosophical stance, such as meeting specific time-limited goals.

After completion of cancer therapy, the adolescents used three coping strategies: negotiation, cognitive reliving, and selective forgetting, to focus on getting back to a normal life. Negotiation involved activities of daily living. Cognitive reliving was a way that imagined the cancer experience again to consider a hint for present and future behavior. Similar to this study, Glasson (1995) has found that a coping strategy of adolescents with cancer in outpatient clinics was to participate in a normal way of living with their peer group. For example, adolescents with cancer became powerful for catching up with school-work before school re-entry. Also, adolescents with cancer believed that they were not changed psychologically and still the same person and accepted cancer through their social support networks (Rechne, 1990; Overbaugh & Sawin, 1992).

Some studies found that adolescents with cancer felt helpless and sought spiritual support while being initially diagnosed. Therefore, help from prayer and church was important in order to find relief, comfort, and answers (Fowler-Kerry, 1990; Hinds & Martin, 1988; Nichols, 1995).

5. The Self-Sustaining Process in Adolescents with Cancer

Hinds and Martin (1988) conceptualized the self-sustaining process (Figure 3) that help adolescents with cancer meet hopefulness during their cancer experience. This study explored how adolescents cope with and moved through dilemma to achieve hopefulness and competence in resolving health threats. Participants were 58 adolescent cancer patients with varying diagnoses and different stages of treatment. Stage of treatment varied with 7 in induction, 27 in maintenance, 18 off therapy, and 6 in relapse. They were between the age of 12 and 18. The study method was used grounded theory approach that data were collected though interviews, observations, and health records.

Self-sustaining process was defined as adolescents experiencing serious health threats move to comfort themselves and to achieve competence for resolving the threats (Hinds & Martin, 1988). The self-sustaining process is changeable and it can occur in minutes or weeks. Also, some phases take longer than others or may be skipped. Moreover, the improvement of adolescent through the process is able to influenced by behaviors and attitudes of others including nurses. These researchers have conceptualized the self-sustaining process as coping strategies included four phases: cognitive discomfort, distraction, cognitive comfort, and personal competence.

1) Cognitive Discomfort

The first phase occurs immediately after adolescents with cancer become aware of negative or disruption thoughts about their illness. Cognitive discomfort includes two strategies such as thought stopping and thought reflection. Thought stopping is described that the adolescents learn breaking negative or disheartening thought. Thought reflection is explained in which the adolescent make a conclusion about a difficult situation. For example, an adolescent with cancer said that when she had got bad thoughts about dying or never getting off therapy, she had made herself stop the thought.

2) Distraction

The second phase, distraction, is one of purposeful effort to move away the disturbing thoughts with more positive thoughts or activities through cognitive and behavioral activities. The adolescents learn cognitive and behavioral activities to promote positive thoughts and conditions. Nine strategies are constructed in this phase.

Do something: The adolescents make themselves keep busy with a physical activity to occupy time and thoughts.

I could always be worse: The adolescents positively compare their situations with others' ones. For instance, if a female adolescent had have to lose her legs, it would really bother her.

Made it this far: When all the treatment process is completed, the adolescents feel satisfactory and comfortable.

Looking forward to normalcy: The adolescents make plans themselves into the future such as improved or recovered health, appearance, activities that they feel like healthy adolescents.

Cognitive clutter: Disturbing thoughts are voluntary replaced to less pressured ones. Common replacements are as thinking about homework, cleaning their bedrooms, doing sports, and knowing the weather.

God will take care of me: The adolescents believe that God exists and makes right decisions about their life.

Looking back: The adolescents think about their appearance and activities before they became ill. They recognize that those are not altered by cancer. One case, female adolescent with cancer who was relapse, expressed that she had had a life before cancer.

Knowledge of survivors: Information about other adolescent survival helps the adolescents to learn about the way that the survival do well.

Others have hope for me: The adolescents feel comfortable and have hope when others express health recovery for them. For instance, a male adolescent with cancer explained that as saying about his wish to die, one nurse had told that he had never done.

Adolescents with cancer do not depend on one of the nine strategies. Rather, they shifted their strategies because of the immediate situation. In addition, age-related differences in the repertoire of strategies are remarked. For example, younger adolescents aged 12 to 14 years had a smaller repertoire than older ones. Younger adolescents did not use the strategy such as looking forward to normalcy which project self into the future, and only a few used strategies such as I could always be worse. A younger adolescent could occasionally use the comparison strategies with help from others, but did not prefer them.

3) Cognitive Comfort

Cognitive Comfort is as the adolescents experienced periods of comfort and lifting spirits and have a view of future possibilities for themselves or others during the cancer experience. This phase includes two strategies such as forgetting cancer and hopefulness.
<u>Forgetting cancer</u>: The adolescent temporally perform like forgetting the awareness of their illness. They may experience protective denial that focuses less on the seriousness of their illness and more on manageable issue such as making health and planning life goals.
<u>Hopefulness</u>: The adolescents believe that a positive future exists for themselves or others and a symptoms, situations, or events can be better. They also describe about the needs of having hope for themselves and others.

4) Personal Competence

The fourth phase, personal competence, exchanges the adolescents view themselves resilient, resourceful, and adaptable in the face of serious health problem. Personal competence include three strategies.
<u>Commitment treatment</u>: Even though the treatment is hard, the adolescent want to continue receiving it to get a chance for life.
<u>Adaptation to symptoms</u>: The adolescents understood discomfort from side effect of treatment. They share a displeasure such as the loss of hair, nausea, and

vomiting each other and adapt to cope easily with the side effects.
Taking care of problems: The adolescents feel themselves as resilient and competent to difficult situation. One adolescent cancer patient in remission, for example, felt that he or she felt could handle difficult situation.

The strategies of the fourth phase share an individual action, and acceptance of stressful events, and recognition of resourcefulness. The adolescent' adaptational outcomes are self-focused and not environment-focused. Therefore, personal control of the disease does not exist.

6. Discussion

This section reviews briefly the literature review and discusses some recommendations for strategies to develop the study of resilience in adolescents with cancer. Rutter developed the concept of resilience in children and adolescents. Woodgate adapted this study and further developed the resilience model for adolescents with cancer. This model describes how their resilience develops using stressors, protective and vulnerability factors or processes and outcomes. However, the model appears weak in its description of processes. Rutter has expressed the view that knowing about protective processes and the influence of these processes rather than just focusing upon protective factors was important in order to promote resilience. Hinds and Martin studied about how adolescents with cancer achieved hopefulness. The adolescents revealed that they experienced hopefulness in moving through the self-sustaining process such as cognitive discomfort, distraction, cognitive comfort, and personal competence. They used various coping strategies in the processes. Other studies showed that psychosocial support from people and the hospital environment were valuable for adolescents with cancer in order to cope with their experience of hospitalization. Adolescents who experience cancer have also used different coping strategies in different developmental stages and in alternative phases of cancer therapy.

The authors believe that the self-sustaining process may be useful for understanding how adolescents with cancer develop their resilience. That is because the self-sustaining process is a study for the meaning of the protective processes that Rutter has mentioned. There are two important objects in use for the model. Research should focus on people who support the adolescents in order to promote resilience. This model should also be aimed at adolescents who are at different developmental stages. Also, the authors propose that building a knowledge base for expanding on cultural differences should be investigated. Rutter pointed out that research on resilience had to focus on the specific processes that operate in particular circumstances for particular outcomes. Researchers should be concerned with two cultural differences. The first is in regarding revealing the diagnosis of cancer or not. The second concerns is differences in length of average stay in the hospital. Based on the history of resilience in childhood cancer patients, research reviewed in this study may have been conducted in the situation that most adolescents with cancer were told of their diagnosis. However, this is not always the norm in other cultures. The length of hospitalization also appears to be different in different countries (US Bureau of the Census, 1991; Japan Statistics and Information Department Minister's Secretarial, 1999). This approach will improve the understanding of resilience on certain patients in certain cultures and help adolescents to cope with cancer.

Understanding about resilience may be vital to the study of adolescent cancer patients. Such knowledge is also extremely valuable for the conceptual framework to support adolescents with cancer and improve their resilience. Furthermore, it is important for health care professionals to be aware of resilience during their day to day clinical practice (Morse & Field, 1995; Hasse & Rostad, 1994). Reporting research outcome may provide information for teachers to teach, for researchers to further study into their area of speciality, and for health care professionals to facilitate patient care. Through these efforts adolescents with cancer will have greater opportunity to enrich their lives and promote their quality of life as a result of learning to successfully cope with the cancer experience.

PARTIII

Resilience in Adolescents with Cancer

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I METHOD

The use of qualitative methods helps to get closer to understanding children's perspectives of their cancer experience including their feelings, wants, needs, and concerns (Woodgate, 2000; Strauss & Corbin, 1990). In this manner, a case study research method was used for this study.

1. Participants and Recruitment

The participants were 7 adolescents with cancer between 11 and 18 years of age. The participants were recruited from four agents. The author (A. I.) contacted 7 of adolescents with cancer who indicated interest in being interview.

Out of the 7 participants, 4 were diagnosed with acute myelogenous leukemia (AML), two were diagnosed with acute lymphocytic leukemia (ALL), and one was diagnosed with non-Hodgkin's lymphoma (NHL). The participants included 6 females and 1 male whose ages ranged from 11 to 18 years. All participants were diagnosed with cancer between 5 and 17 years old. Three of the adolescents experienced one or two times of relapse. Three of them were newly diagnosed. Their time after diagnosis ranged from 0 to 8 years. Five of them were treated by born marrow transplant or BMT. The others were received chemotherapy, but not BMT. Two of the adolescents were inpatient and two months before completing treatment, 2 were close to discharge that would go home within one week, and 3 were outpatient and within one year after discharge. Two of them were lost during this study because of death. However, the data of this participant was used. Five of the adolescents were told their diagnosis and two were not. In the told diagnosis adolescents, three of the adolescents were newly diagnosed and two were in relapse. The name of the disease was told before starting cancer treatment. Two of them was told the result of his or her diagnosis before transfer to other hospital for the treatment. The other one was told when he or she was transferred former hospital to the present one. Demographic data is showed (Table 2).

Proposal included resources and facilities, research plan, human subjects, literature cited was approved by the ethical committee member of an University. Permission to work with the adolescent groups was obtained from the administrators and chief oncologists of an university hospital, two public cancer clinic center, and one prefectural clinic center.

Sampling involves the conscious selection by the physicians who treat adolescents with cancer. The participants were between 11 and 18 years of age. They were from inpatient who were a couple of months before finishing inpatient therapy to outpatient who were within one year from discharge. The families were selected by a physician from each four agents. Potential research participants and their parent(s) were approached in the hospital or clinic by pediatric oncologists to assess their interest in the study. Once the child and parent(s) expressed interest, information for adolescents with cancer such as age, sex, name of diagnosis, treatment, progress, and convenient day and time for data collection were offered by the physicians. Because of the condition of the adolescents, an appointment day changed, so the author (A.I.) called the physician a couple of day before expected day if interview will be available. Date, time, and place for data collection were arranged by the author and the physician. The author contacted the adolescents and explained about the study to them and obtained their informed consent before participating in this study. Initial meetings with the adolescents and their parents took place in the outpatient unit, in the inpatients unit, or at their home.

2. Procedure

Semi-structured individual interviews were conducted between December of 2001 and August of 2002 by the author. All interviews were conducted face-to-face and audiotaped using the same protocol. Five of seven were interviewed in the hospital and two of them were at home. Each interview lasted between 30 and 50 minutes depending on the amount of information the adolescent chose to reveal. Once the interviews were completed, the author wrote impressions of each interview in the filed note, and transcribed the taped strictly within one week after interview in each cases.

A semi-structured interview guide by Weekes (1994) was used for the assessment of changes in meaning and perception, expected changes at home, at school, and with friends, and coping strategies used before and after completion of cancer therapy. As a result of a pilot study (Ueda & Ishibashi, 2002), the semi-structured interview by Weekes (1994) was modified into more understandable and simple questions for this study. The interviews focused on resilience included coping strategies in three specific area of cancer therapy: inpatient phase (included diagnosis phase), near discharge phase, and outpatient phase. Strategies related six areas such as cancer experiences, friendship, study, family relationship, purposes, and three wishes were asked in each phases. These subjects were based on studies on pediatric cancer patients which have described about affection for psychological development (Foley, Fochtman, Mooney, 1993; Hanna & Jacobs, 1993; Hinds & Martin, 1988; Hockenberry-Eaton & Minick, 1994; Orr, Hoffmans, & Bennetts, 1984; Weekes & Kagan, 1994; Gizynski & Shapiro, 1990) and challenge for maintaining their identity (Hanna &Jacobs, 1993; Hinds & Martin, 1988; Hockenberry-Eaton & Minick, 1994; Orr, Hoffmans, & Bennetts, 1984, Weekes & Kagan, 1994; Zevon & Tebbi, 1987). The interview questions were listed (Figure 3).

The main aim of the first phase of the interview is to build up a rapport (Aldridge & Wood, 1998). The need of speak the truth and the acceptability of saying "I do not know" was emphasized. It was also explained that there was not wrong answer. The interview may be asking from a broad and safe question to specific and sensitive one (Burns & Grove, 1987). The interview started by asking the adolescents the reason for his/her hospitalization. Then, questions were continued asking the adolescents at three phases such as inpatient phase, near discharge phase, and outpatient phase: "Will you tell me how you felt when you heard about illness?", "Will you tell me what kinds of things you do and think about that help you to deal with treatments? ", "How have things in your life changed since discharge?", and "Will you tell me your three wishes if you have?" These questions were focused on specific subjects in six areas such as related cancer experiences, friendships, studies, family relationships, purposes, and three wishes.

To encourage the subject to continue talking, the phrase such as "Will you tell me more about it?" was used. The tense of questions were modified by depending on the adolescents' situation such as being in the hospital or at home after discharge. During an interview, a note was used to taking memo for key words. The author kept a mind to collect data how a positive attitude, a confidence to deal with stressful situation, and capacity to adapt the stress occurred for the adolescents while he or she was listening answers. It is very important to know which individuals were told their diagnosis. The parents were very careful to be known diagnosis by their children who were not told the name of disease. The researcher had to be careful about it not only when asking question during interview, but also before and after interview. The words of "cancer" and "death" were not used by the the author during interview, but these terms were used when the adolescents who were told their diagnosis started to use by themselves.

3. Analysis of Data

For case study analysis, using a pattern-matching logic is one of the most preferable strategies (Yin, 1994). Analysis was used a pattern-matching logic which compares a pattern with a proposition. In this study, a pattern was the self-sustaining process of Hinds and Martin who include four sequential core concepts: cognitive discomfort, distraction, cognitive comfort, and personal competence (Figure 3).

Internal validity identify in a case study if the all patterns fit with the proposition. Then, the proposition would be accepted with a stronger outcome. However, if the patterns do not fit, even if one variable does not fit, the proposition would not be accepted. In this situation, a theoretical replication is made for all cases. If the patterns agree, the results can help a case study strengthen its internal validity. It is vital to identify all reasonable threats to validity and to made a theoretical replication across cases. External validity deals with whether a study's findings are able to generalize or not. A theory must be tested through replications of the findings by second or third cases (Yin, 1994). Sixth cases were replicated in this study. Once such replication has been made, the results might be accepted for a much larger number of similar cases. The method of generalization is to use a previously developed theory to compare the empirical results of the case study. If two or more cases support the same theory, replication may be stated. The empirical results may be more effective if two or more cases support the same theory, but do not support rival theory (Yin, 1994).

The goal of reliability is to minimize the errors and biases in a study such as using case study protocol and developing case study data base (Yin, 1994). Reliability was checked correct data taken with the protocol which was shown in procedure by the author who analyzed. Content analysis was conducted by the author and a cooperator. Rigorous application of the coding techniques by two analysts helped to maintain the reliability and validity of the analysis (Burns & Grove, 1987). Thematic coding categories were identified through a careful and restrictive review of the data. The author independently identified 4 thematic coding categories of four concepts. First, data was divided each phases included the inpatient phase, the near discharge phase, and the outpatient phase. Second, the data was identified four concepts such as distraction, cognitive discomfort, cognitive comfort, and personal competence, Third, the data in each concepts was identified six areas related: cancer experiences, friendships, studies, family relationships, purposes, and three wishes. The author then compared the coding categories within and between interviews to discover differences or similarity to one another. This coding processes were replicated by all cases. The coding categories were checked strictly using the same coding process by a cooperator. At the end of the data analysis phase, participants are invited to take part in member checking in order to check the accuracy of study themes (Burns & Grove, 1987). Complete study findings were shared with and validated by 2 adolescents who had been involved in the initial interviewing.

II RESULTS

Through this study, we searched to understand the resilience from the experiences of adolescents with cancer. Analysis of the data led to the formulation of two categories: 1) strategies in adolescents told diagnosis, and 2) strategies in adolescent not told diagnosis. The number of adolescents with cancer who provided evidence for strategies in each concepts such as cognitive discomfort, distraction, cognitive comfort, and personal competence in each phases has been reported (Table 3). The number of adolescents with cancer who provided evidence for six areas in each concepts and phases has been reported (Table 4). The total number of instances from all the interviews was shown in brackets.

1. Strategies In Adolescents Who Told Diagnosis

In five adolescents (S2, S3, S5, S6 and S7), three of them (S3, S5, and S7) were newly diagnosed and two (S2 and S6) were in relapse. S6 and S7 were inpatients and S2, S3 and S5 were outpatients. All of the adolescents used strategies of four concepts included six areas in three phases.

1) Inpatient Phase

Cognitive Discomfort

The adolescents (S2, S3, S5, S6, and S7) spontaneously discussed two strategies, thought stopping (4) and thought reflection (4). These strategies were only used for related cancer experiences (5) and family relationships (4).

Researcher (Res): Will you tell me why you are hospitalized? (or Will you tell me why you are hospitalized?). Will you tell me how you felt when you heard about illness?

The adolescents who were newly diagnosed were a shock about diagnosis, hospitalization, and born marrow transplant (BMT) because of death, but their parents and a doctor supported their to release.

S3: I thought about the death right after hearing my diagnosis. But, I could have a hope for the future because my parents explained that treatment could cure my illness.

S5: I was not a shock when I was told diagnosis because I had already been aware of it. Because I was carefully listening to the conversation that my mother and a doctor talked. Rather, I worried about if my illness would recover by BMT. But, I released when I was told that BMT patients had mostly recover.

S7: First (when I heard my hospitalization), I was a little shock and worry. I thought that my illness was as very serious as I had to be hospitalized. But I gradually felt all right because my parents told me that my illness would recover.

The adolescents in relapse showed different reactions to their diagnosis.

S2: When I told diagnosis, I wanted to discharge as soon as possible.

S6: I thought that my illness was serious (when I was told my diagnosis again).

S6: I heard everything (about my diagnosis).

Distraction

Three strategies such as cognitive clutter (5), knowledge of survivors (1), and others have hope for me (1) were reported by the adolescents (S2, S3, S5, S6, and S7). All of the adolescents showed that cognitive clutter were applied to related friendship (5).

Res: Will you tell me what kinds of things you did and thought about that helped you to deal with treatments?

These adolescents who were newly diagnoses were temporary deal with negative thought and with being relax and spiritual support from their friends.

S7: During vomiting, having pain, and feeling tired, one of my friend who had met in the hospital and moved to other city had encouraged me. She told me that I would cure. So I could fight against such hard things.

S7: I was very shock to falling hair, but a little girl with hair loss who was next bed had always smiled.

The adolescents in relapse showed positive attitude for stressful situation.

S2: Thinking about my purpose and activities that I would like to do after discharge helped me to cope with the stress during hard experience."

S2: "It (falling my hair) is OK because my hair will grow again. Very and very short hair is the latest fashion. There are artificial hairs, too.

Cognitive Comfort

The adolescents (S2, S3, S5, S6, and S7) revealed two strategies include forgetting cancer (4) and hopefulness (5). These strategies were experienced in related cancer experiences (1), friendships (4), purposes (4), and three wishes (4). Most of the adolescents did not use cancer experiences.

Res: What kind of things you do and think about that help you to finish with treatment easier?

They attempted to normalize their life with thinking about recovering from illness, doing somethings after discharge, and keeping to contact to his or her classmates with mail.

S3: I didn't think that my illness was fatal.

Res: Will you tell me your three wishies if you have?

Hopes of newly diagnoses adolescents were related leisure. However, the relapsed adolescents had hopes for studies

S2: I thought what I would like to do after discharge (dance lesson for a talent).

S6: I have a hope for going to school and participating school activities after discharge. There is a high school that I want to go.

Personal Competence

The adolescents (S2, S3, S5, S6, and S7) expressed to personal competence such as commitment to treatment (5), adaptation to symptoms (4), and taking care of problems (5). These strategies were applied for related cancer experiences (5), friendship (3), study (5), and family relationships (4). All of the adolescents used strategies for related cancer experiences comparing to concept of cognitive comfort.

Res: Will you tell me what kinds of things you did and thought about that helped you to deal with side effects and other problems related to your illness?

It is important to understand that most of the newly diagnosed adolescents were supported by their parents to promote these strategies.

S5: When I was told about falling my hair by treatment, I cried very much and said to my mother that I didn't want to have the treatment. My mother comforted and told me that she would buy a pretty hat for me.

S7: When I will go to school, I should go without any worry. I should not be depressed. I will perhaps be discharged in October. There are least two months (for discharge) and there is one treatment left.

The adolescents in relapse felt themselves to be adaptable in the face of their problems. One adolescent decided to be in the hospital alone and transferred to other school by self and said, "Because I did not like to be behind in my class when I would go to school."

S6: The class here (hospital classrooms) is off in Thursday (and Sunday). What we do in the class is like a game. So, even though I can not present the class, I had transferred to a regular school from the class to receive more higher level of education. After moving a regular school, I have studied by self in the hospital.

S6: A level of my study was beyond one of my class.

S2: I had painful procedures, but I could be patient because I could nothing about it (for my treatment).

2) Near Discharge Phase

Cognitive Comfort

Three of the adolescents (S2, S3, and S5) verbalized two strategies such as forgetting cancer (2) and hopefulness (1). These strategies were experienced on related cancer (1), study (1), and family relationship (2).

Res: How were things the same or different for you when your discharge was near soon?

All of the adolescents were very exciting for discharge. One of them said, "I felt bravo!! I could say good-by to this hate hospital life."

S5: When I was in treatment phase, I only thought about my illness and side effect. But, when discharge would be soon, I changed my mind to think in reality such as reentry school and an entrance examination for a high school.

Personal Competence

One adolescent who was newly diagnosed (S5) expressed one strategy of taking care of problem (1). These strategy was used for study (1) and purpose (1). The adolescent felt adaptable in the face of cancer and adolescent life. The adolescent studied very hard because he or she had a purpose and said, "Because I would go to school near soon. I did not want to be behind in my class."

3) Outpatient Phase

Cognitive Comfort

Three of the adolescents (S2, S3, and S5) described two strategies such as forget (1) and hopefulness (3). These strategies were used for related cancer (2), family relationship (2), purpose (1), and three wishes (3).

Res: What kind of things you did and thought about that helped you to deal with outpatient easier?

The newly diagnsed acolescents surely wanted to recover from their illness and side effect.

S3: I hope that I will not be in relapse. I do not want to receive BMT (born marrow transplant). I am in remission with chemical treatment now. If I was in relapse and had BMT, I would have some trouble such as sterility (cannot be pregnant). I do not want to get blood (born marrow) from my brother.

S3: My wish is something like being slim and being nice style that every female adolescents want (She have had a experience of side effect such as swollen face and abdomen).

The adolescent in relapse had realistic hope of going to school, but not related cancer.

S2: I want to go to school every day when I am fine. I don't mind if I go to the hospital, but I wish I could go to the hospital on Saturday. The day before yesterday I visited the hospital, too. I did not go to school for two days in this week even though we would have the test (at school) soon.

Personal Competence

Three of the adolescents (S2, S3, and S5) expressed three strategies include commitment to treatment (2), adaptation to symptoms (3), and taking care of problems (3). These strategies were applied for related cancer experiences (3), friendship (3), study (3), and family relationship (1). Differences between the adolescents who were newly diagnoses and the one in relapse were only cancer experiences. Psychological grow was found in newly diagnosed adolescents.

Res: How have things in your life changed since you were discharged?

Their friends supported the adolescents to adaptation to symptoms.

S3: I told my closed friends about my diagnosis. Other friends seemed to know about my illness by rumor (gossip), but I did not care because I was fine at the time. My friends said to me that they didn't care because I was fine. They never lead me to go outside, but visited me to play. They take care of me. I appreciate them.

S5: When I went to school without the bandana (because of growing hair), my classmates said to me that my hair was beautiful, very smooth and shiny, and looked like the hair of baby. They envied me. I was very pleased to hear that.

Their school teachers supported the adolescent to take care of physical and psychological problems.

S3: Well, there is a teacher whom I can trust. After hearing my problem (He of she could not study like before because of side effects), the teacher said to me that I seemed to be trying study hard, but I did not need to do now. Being health was importance for me. After thinking about it, I was released.

S5: I really wanted to attend physical class. Yet, I must not be suffered by ultra-violet rays. Therefore, I asked a physic's teacher if there was something I could do. The teacher said that I could make a report. I though that the evaluation of this class might be 1 point score, but the teacher gave me 2 point score. I was very glad.

The adolescents have taken care of their problems by themselves.

S5: I was worry about going to school with a few hair. I was worry if some one watch me suspiciously because of my appearance. My head with a bandana (scarf) did not fit for my school suite. I was as if a male student who wore a female suite. I went to school with the bandana anyway.

S5: People (include the students) looked me as if I was a strange. They seemed to have a question like why she wore a scarf on her head. However, I was getting to use to it.

The adolescents grow psychologically through cancer experience.

S3: I have some possiblites to live, but there are the students who know how many years they are able to live and who know their life will be end by 30 years old. However, they have lived with illness now. It is marvelous. I thought once why I could not play (with my peers) even though I was in a period of age to enjoy playing. But, I recognized the world that I had not known before. I feel that I can think of many ways now. I changed into my mind that living life was the most important. I will be living long because of participating in my treatment and taking care of myself. I am not afraid (of death) because mines (my illness) will recover. If I die now, I feel sorry for people who have taken care of me.

S5: My mother told me that I had changed. I was dependent person before getting illness. After having cancer experience, living is the most important for me. I don't care if I do something slower than others do. It is "ok". I can do in my way.

2. Strategies In Adolescent Who Not Told Diagnosis

Two adolescents in relapse (S1 and S4) were at discharge who were expected to go home within one week. They did not talk much. One of them was face down during questions about inpatient phase. However, he or she was face up and answered question about near discharge phase. The other told about hard experience of treatment and felt worry about reentry school until the interview's question about hope. The adolescents showed the strategies of distraction in inpatient phase. They also used the strategies of concepts included cognitive discomfort, cognitive comfort, and personal competence in discharge phase.

1) Inpatient Phase

Cognitive Discomfort

The adolescents did not discuss about strategies. The researcher asked, "Will you tell me why you were hospitalized?" and "Will you tell me what you felt when you heard about illness?" One of them looked down and did not respond to the questions. The other one explained only a reason of hospitalization such as "I could not enjoy swimming as much as I had done before."

Distraction

The adolescents reported two strategies such as made it this far (1) and cognitive clutter (1). These strategies were applied related cancer (1) and friendship (1). When the reseracher asked, "Will you tell me what kinds of things you did and thought about that helped you to deal with treatments?", S1 said, "I write letter to my friend about permitting to eat uncooked food." S4 also replied, "When I had a hard time, I thought about my hope that my illness would recover soon."

2) Near Discharge Phase

Distraction

Only one of the adolescents described a strategy of do something (1) which was used for related cancer (1). The reseracher asked, "Will you tell me how you felt when you heard about discharge?" The adolescent felt uncertainty and used a strategy to forget the difficulty.

S4: I worry about hospitalization for this illness again .
S4: I forget it (about hospitalizing again) while I am walking. I stop thinking about it and think that it is "ok" in which way I will go.
S4: I like to study of domestic science in the class.

Cognitive Comfort

The adolescents verbalized two strategies such as forgetting cancer (2) and hopefulness (2). These strategies were experienced for related all area except purposes. The reesercher asked, "You are going to discharge soon. How are things the same of different for you? " The adolescents excited discharge because of tasty food, doing cook, and home environment. The reseracher said, "Will you tell me three wishes if you have?" They wanted to be health for themselves and their family. Their wishes were also realistic.

S4: I want to take a lot of trips. We (classmates) had a camp at forth grade (last year). I want to camp again this year. I surely want to attend a short trip (school event) this summer.

Personal Competence

One of the adolescents expressed one strategy of taking care of problem (1) which was used for related purpose (1). The adolescents used to swimming before getting illness. He or she had realistic hope and accepted physical limitation. The researcher asked, "Will you tell me what you would like to do after discharge?" S1 replyied, "I may be able to go to swimming, even though I can only swim 15 metters and I can not crawl."

III DISCUSSION

This research suggests that resilience is an important issue for adolescent with cancer. The study explored the extent to whether Japanese adolescents with cancer were resilience as same as thoese in the United States. The findings of this study form the bases for a case study using a pattern-matching logic for analysis. The findings suggest that Japanese adolescents with cancer who were told their name of disease are resilience. On the other hand, the adolescents who were not told their diagnosis are different results. Firstly, Japanese adolescents with cancer who were told diagnosis include newly diagnosed and in relapse ones were discussed . Then, the adolescents with cancer who were not tell diagnosis were exposed.

1. Resilence In Adolescents With Cancer Who Told Diagnosis

With comparing to the self-sustaining process, Japanese adolescents with cancer experienced a simila process. The adolescents revealed the processes to develop their resilience from inpatient phase to outpatient phase. The adolescents have experienced four sequential core concept such as cognitive discomfort, distraction, cognitive comfort, and personal competence. In another words, they described their cancer experiences as "get on with life." The experiences consisted four sequential themes: "my illness would recover", "getting use to it", "I have the purpose and the hope ", and "I am the same, but growing."

Get on with Life

Adolescents with cancer in this study expressed themselves as getting on with life and desire to deal with their cancer and its treatments. This findings are similar to those of Rechner (1990). The researcher described that the most important thing in getting on with life was to maintain their identity and to maintain the life as adolescents. Get on with life also helped adolescents with cancer to overcome the problems such as side effects or other people's reactions to cancer .

1) My Disease Will Recover

In the self-sustaining processes, cognitive discomfort, occurred immediately after the adolescents' negative or disruption thoughts about their illness. It consisted of thought stopping as breaking negative thought and thought reflection that makes a conclusion about a difficult situation (Hinds & Martin, 1988).

Adolescents with cancer have identified a personal philosophy, "cancer is not fatal" in response to the diagnosis of cancer. Such a positive attitude help them to deal with side effects and other people's reactions to cancer (Rechner, 1990). Those findings are similar to the adolescents in this study. All of the adolescents who were newly diagnosed felt very shock by hearing their illness. However, the adolescents believed that their disease would recover. Because the adolescents were released their distress by their parents' explanation that their disease would recover. One of them who was in relapse got every information about his or her disease from a physician when he or she was hospitalized again. The adolescent was in relapse in six years after completed former therapy. Hockenberry-Eaton and Minick (1994) suggested that early adolescents with cancer felt that knowing about their type of cancer and its treatment made it easier to receive treatment . Also, increased knowledge of cancer in adolescent cancer patients was positively related to self-image and adjustment to the disease (Jamison, Lewis, & Burish, 1986). However, no information for pediatric cancer patients by health care professionals and parents fails to reduce the stresses of disease (Claflin & Barbarin, 1991; Hockenberry-Eaton & Minick, 1994).

One of the adolescents who was in relapse wanted to go home after hearing about his or her disease. This reaction might be similar to the findings of a study. A study for hopefulness in adolescents with cancer was conducted on a intervention group of a self-care coping and a control group. The findings indicated that the control group described "go home" as leaving treatment setting, returning to the family, and ending treatment soon. On the other hand, the intervention group identified that they managed the stressors and viewed self as competent. The control group may have avoided focusing less on their illness and the demands of its treatment. The research explained that intervention of self-care coping may have promoted the adolescents to have hope (Hinds, Quargnenti, Fairclough, and et al., 1999).

The two groups, the adolescents who were newly diagnosed and in relapse revealed differences in attitude toward their stress. The former were supported by their parents to release the worry, but one of the other accepted the process of their disease.

2) Getting Use to It

The adolescents were getting use to stress related cancer. One of the adolescents who was in relapse said, "I am able to be patient with injections because I can do nothing about it." In the distraction phase of the self-sustaining processes, emotional-focused coping occurs when individuals have concluded that nothing can be done to change the threatening condition. Adolescents with cancer try to alter their perception of the cancer experience rather than the disease itself (Hinds & Martin, 1988). Early adolescents with cancer were also encourage during treatment to overcome fears with support from family (Hockenberry-Eaton & Minick, 1994). Then, they became accustomed to the painful procedures and other difficult situation by acceptance and became a positive attitude as "getting used to it." Pediatric cancer patients experienced once about "getting used to having cancer", then they felt easy to coop with cancer (Hockenberry-Eaton & Minick, 1994).

Moreover, "getting use to it" has been described as adaptive denial. It is coping strategy that describes a positive and optimistic outlook and concern with daily tasks rather than worries about the disease (Foley, Fochtman, Mooney, 1993; Katz, Kellerman, & Siegel, 1980; Koocher, 1985). The adolescents used the strategy of busy-ness to deal with physical and functional changes (Elkind, 1985). Busy-ness was the act of keeping busy to deny physical and functional changes (Weekes & Kagan 1994). Those findings are similar to results of this study. All of the adolescents spent a time in the hospital doing game, writing letter, talking with their friends on the phone, chatting with nurses, or cooking cakes. The adolescents were also supported by their friends and others.

Hair loss, a common side effect of chemotherapy, create anxiety for the adolescents. Even if the patient understands that the hair will grow back, baldness is a major stressor due to a visible different from the peers. One study reported that feelings about hair loss were categorized into before, during, and after phases. Hope, sadness, and anger characterized feelings before hair loss. During the hair loss, acceptance about hair loss was a value. After the initial shock and sense of loss, most pediatric cancer patients begun to adjust to baldness. As long as their family tell children that it is okay to be bald, the children feel comfortable. Pediatric cancer patients understand that they must accept the loss and then wait for their hair to grow back. After hair loss, how one looks were emphasized (Adamodt, Grassl-Herwehe, Farrell, and et al., 1984). The data was supported by those findings. Most of the adolescents in the study cried and rejected for receiving therapy when they heard about baldness. Then, they accepted it as long as parents' support such as giving wigs and surprise present of bandanna. One of them were encouraged by the attitude of a little girl who were bald and smile always. Early adolescents with cancer expressed that they had changed to the matter-of-fact attitude since having cancer (Hockenberry-Eaton & Minick, 1994). This finding is similar to the data. One of the adolescent said, "I lost my hair, but I have many hats."

Differences between the adolescents who were in relapse and those who were newly diagnosed are found. The adolescents who were in relapse showed positive attitude about coping with stress. One of them told that hair would grow again and short hair was a latest fashion. Contrary, the adolescents who were newly diagnosed used coping strategies that were leisure events.

3) I Have Purposes and Hopes

Cognitive Comfort was discribed in that adolescents with cancer experienced periods of comfort and lifting spirits and had a view of future possibilities for themselves or others. Forgetting, was defined as the adolescent succeeds in temporarily removing from awareness the knowledge of personal illness. The adolescents were able to accept having had cancer as a past experience by forgetting (Eys, 1987; Weekes & Kagan, 1994). "Not worrying about it" allowed to escape from distress. Some of adolescents with cancer hoped that they would be healthy as recovery from illness, avoidance of relapse, and return to be normal (Hinds, Quargnenti, Fairclough, and et al., 1999). All of the adolescents who were newly diagnosed in this study hoped that they would return to be health and would not be in relapse. They felt uncertain; however, a normal attitude of "not worrying about it" made adolescents who are coping well with therapy and its uncertain outcomes (Koocher, 1985).

Adolescents with cancer also liked to attend not to think continuously about their illness and associate to day-to-day tasks such as schoolwork, school activities and social activities with peers or sports (Foley, Fochtman, & Mooney, 1993; Weekes & Savedra, 1988; Weekes & Kagan, 1994). The adolescents with cancer may also be concerned about their grades and ability to compete with peers for study .(Foley, Fochtman, & Mooney, 1993). Similarly to the findings of these research, one of the adolescents who was newly diagnosed in this study tried to study English and mathematics willingly because of entrance examination for a high school. One of the adolescents who was in relapse also concerned about study more at extra school activity for reentrance school.

Hopefulness was described that adolescent possess reality-based belief that a positive future exists for themselves or others (Hinds & Martin, 1988). A study stated that the presence of hopefulness did not necessarily for adolescents who were newly diagnosed with cancer. That is because they might be practicing a kind of protective denial that focused less on the seriousness of their illness or on gaining their health and life goals soon after diagnosis. Also, protective denial as an adaptive strategy accepted to have normal hopes to balance illness -based hopes. The adolescents tended to be focused on short- and intermidiate-term hopes such as being healthy, normalcy, or educational achievement. The highest hope was be healthy (Hinds, Quargnenti, Fairclough, & et al., 1999). All of adolescents in this study showed similarity. They wanted to return being health. Weekes and Kagan (1994) described that adolescents with cancer who undergoing cancer therapy did not accept themselves to think far beyond the present when treatment outcomes remains uncertain. They set specific time-limited goals such as what they would eat after their treatment and where they would go on the weekend. The data is similar to those findings. The adolescents who were newly diagnosed hoped about taking trips, and playing sport. Also, the adolescents who were in relapse wanted to go to school every day and play a lot with friends. However, one of them already thought his or her future such as being a talent.

All adolescents in this study had hope. However, quality of their hopes were differences between the adolescents who were newly diagnosed and those who were in relapse. The former hope was related the leisure, but the other' one was associated their study. Also, the adolescents who were newly diagnosed hoped that they would not be in relapse. On the other hand, the latter wanted to go school instead of thinking of their disease. They were more realistic than the others.

4) I Am the Same and Growing

Hopefulness was important to have positive attitude, but it was not enough to strengthen the adolescents with cancer through the experience of cancer. Personal competence is explained that the adolescents viewed themselves adaptable, resourceful, and resilient to deal with serious health problem. It consisted of three strategies: commitment to treatment, adaptation to symptoms, and taking care of problems (Hinds & Martin, 1988).

Adolescents who received post-therapy completion described a time for movement toward a normal life (Weekes & Kagan, 1994). Normalization for adolescents with cancer is defined as that the adolescents use a behavior such as engaging in usual activities, appearing normal, and avoiding embarrassing situations (Knafl & Deatrick, 1986). Adolescents with cancer believed that they were unchanged by cancer. However, others thought that cancer has changed the adolescents (Rechner, 1990). Similarity to those findings were found in this study. The adolescents in this study expressed that they wanted to return to school as a student as peers and attend school every day. One of the adolescents who was newly diagnosed said, "classmates knew my disease by indirectory, but I did not care about it because I was fine."

Pediatric cancer patients worried about reactions of peers to the diagnosis and the loss of hair, or changed body shape (Foley, Fochtman, & Mooney, 1993). A normal appearance could be maintained by hiding visible. Adolescents with cancer wore wigs to hide their baldness or never revealed their illness to kept up all their normal activities (Rechner, 1990). Similarly to the findings of these studies, All of the adolescents in this study wore hats, wigs, and bandanna in school. The establishment and maintenance of relationships with friends and schoolmates were important for all the teenagers. Adolescents with cancer tried to keep their world as normal or adolescent's world. Significant others also helped to keep personal identity of adolescents with cancer by providing information and feedback about specific behavior (Rechner, 1990). Similarly, all of the adolescents in this study tried keeping to contact with their friends. In this study, one of the adolescent said that her classmates envied her hair because of likely babies' hair when she went to school without bandanna. She felt very happy about it. Also, the another of the adolescents was received a thousand crown of papers and digital video tape made by classmates. These findings were supported by some studies. The theme of "treat me as normal or peer acceptance" is important for them. Social support may help pediatric cancer patients to keep the strategy (Adamodt, Grassl-Herwehe, Farrell, and et al., 1984; Chesler & Barbarin, 1987; McCornick, 1986). Support from individuals in the environment and school including friends, teacher, and ministers were found to be significant protective factors against stress (Werner & Smith, 1989; Hochenberry-Eaton, Kemp, & Dilorio, 1994).

All of the adolescents who were newly diagnosed in this study hoped that they would return to be healthy, but would not be in relapse. They felt uncertain. Results of this study supported the researcher's belief that embracing uncertainty is the process that transforms active coping into psychospiritual development such as learning gratitude and appreciation for life, as well as remembering to enjoy life (Parry, 2003). The adolescents who were newly diagnosed in this study also expressed that existing was the most important idea for people. Hinds and Martin (1988) described that although answering the present possibility of dying, the adolescents with caner answered a belief that symptoms, situations, or events could improve. Present findings are similar to results of their study. One of the adolescents who was newly diagnosed described that he or she might die from my illness. However, the adolescent told that he or she would have a long life due to getting treatment and taking care of self for health.

The adolescents in this study were ready to a normal life as adolescents' world. Differences between the adolescents who were newly diagnosed and in relapse were found. The former showed their psychological development, but the latter seemed to desire to study. Also, the adolescents who were in relapse were independent such as decision making by their selves.

2. Resilience or Not Resilence of Adolescents with Cancer Who Not Told Diagnosis

A difference between the strategies of the self-sustaining process and the adolescents who were not told the name of their disease was found. The adolescents seemed to use more strategies in the near outpatient phase than the ones inpatient phase. One of the adolescents who was disability was interviewed the day that he or she would discharge within one week. The other meet at a day of discharge. They were not talk very much about their experience of hospital life. These results supported the belifs of Bluebond-Langer's findings. According to Bluebond-Langer (1978), the first relapse was a shock the part of parents, staff, and children. The children soon realized that adults hesitated to answer questions. They asked their parents less and less about the treatments and their condition. The children began to recognize and observe the taboos on speaking about their disease, their condition, and their prognosis. Once the childhood cancer patients saw the relationship of the drugs to recovery from the disease, they came to a view of themselves as "seriously ill, but will get better." When this hope seemed to become more real, past experience and the diagnosis itself were all pushed aside. People began to treat the children normally again and to share their hopes (Bluebond-Langer, 1978).

1) My Disease Will Recover

When the auther asked about the reason for hospitalization and feeling about their illness, one of the adolescents did not say anything about strategies of discomfort and the other answered unclearly.

2) Getting Use to It

There is no information from one of them. The other has sent a letter to friends, but it was not very often. He or she has had a good time because of some events in the hospial such as a birthday party and Christmas party

3) I Have Purpose and Hopes

The adolescents had hope that their disease would recover completely and want to take a school. Both hoped their family not to get sick. One of them told that he or she wanted his or her family to live longer because he or she would not be lone.

4) I Am the Same and Growing

One of the adolescents used to swimming before admission and said, "After discharge I may be swim only about 15 meters, but I cannot crawl." This finding supported that when going home had been determined, they had talked about their activities about what they could do after living to the hospital (Bluebond-Langer, 1978).

IV CONCLUSION

This study represents an understanding of resilience in adolescents with cancer. The results suggest that Japanese adolescents with cancer who are told the name of their disease may be resilience. The adolescents use the strategies differently. At near discharge the adolescents who are newly diagnosed seem to think reality about their developmental task such as going to school and study. However, the adolescents who are in relapse sound like to start using such realistic strategies when they receive their therapy. These outcomes may help adolescents with cancer to improve their resilience more beneficially. Nurses, physicians, school teachers, families, and other professionals may use right supports at right phase for the adolescents. Also, the adolescents who are not told one show resilience unclearly. This results suggests researches need to study in future.

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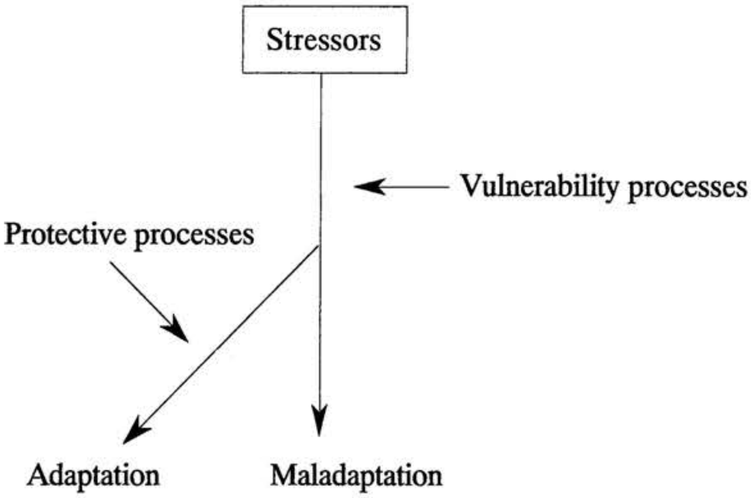

Figure 1.
Conceptual Orientation for Protective and Vulnerability Processes of Rutter

Table 1.
Coping in Children and Adolescents with Cancer

- Coping Strategies for Hospitalization
  - Maintaining relationships with friends
  - Support from their family
  - Setting relationships with others
- Coping Strategies for Cancer
  - Positive thinking for painful procedure
  - Hope for the future
  - Try to lead a normal life (i.e., creasing daily activities)
  - Focus on getting back to a normal life (i.e., school reentry)
  - Spiritual support (i,e., church)
- The Self-Sustaining Processes for hopefulness
  - Cognitive discomfort (i.e., thought-stopping)
  - Distraction (i.e., do something)
  - Cognitive comfort (i.e., forgetting cancer)
  - Personal competence (i.e., commitment to treatment)

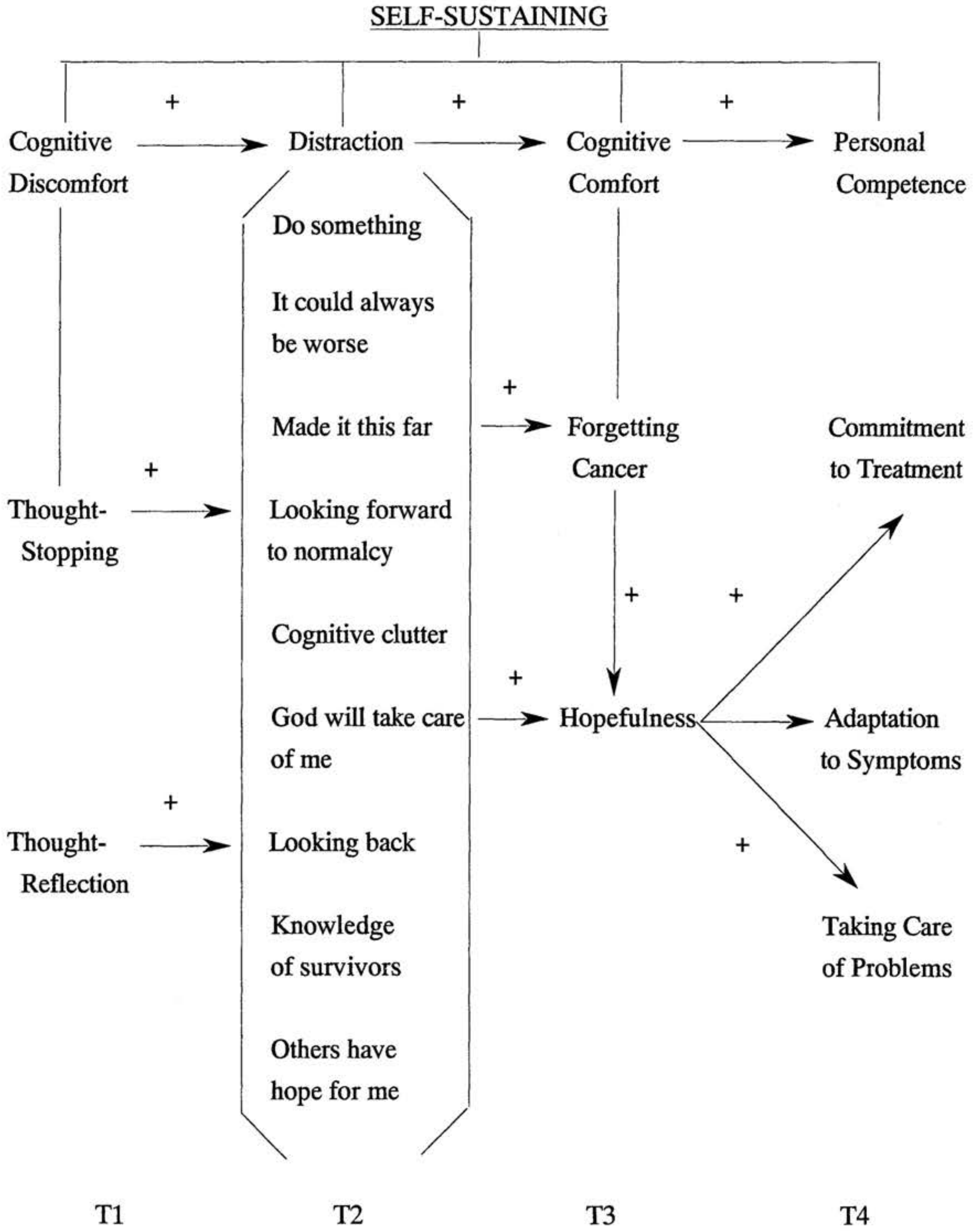

Figure 2.
The Substantive Theory: Categories, core concepts, and the central organized construct (T1 - T4 indicate time frames) (Adapted with permission from Hinds and Martin, 1988)

Inpatient Phase:

1. "Will you tell me why you hospitalize?" or "Will you tell me why you hospitalized?"
2. "Will you tell me how you felt when you heard about illness?"
3. "Will you tell me what kinds of things you do and think about that help you to deal with treatments?" or "Will you tell me what kinds of things you did and thought about that helped you to deal with treatments?"
4. "Will you tell me what kind of things you do and think about that help you to finish with treatment easier?" or "Will you tell me what kind of things you did and thought about that helped you to finish with treatment easier?"
5. "Will you tell me what kind of things you do and think about that help you to deal with side effects and other problems related your illness?" or "Will you tell me what kind of things you did and thought about that helped you to deal with side effects and other problems related your illness?"
6. "Will you tell me your three wishes if you have?" (asked adolescents who were in this phase)

Near Discharge Phase:

1. "How were things the same of different for you when your discharge was near soon?"
2. "Will you tell me your three wishes if you have?" (asked adolescents who were in this phase)

Outpatient Phase:

1. "Will you tell me what kind of things you do and think about that help you to deal with outpatient easier?"
2. "How have things in your life changed since discharge?"
3. "Will you tell me your three wishes if you have?" (asked adolescents who were in this phase)

Figure 3. Questions Asked During the Adolescents' Interviews

Table 2. Demographic Characteristics

Case	Age of Interview (Yr)	Age of Diagnosed (Yr)	Type of Cancer	Type of Treatment	Phase of Interview
1	12	5	AML	BMT	Near discharge
2	14	13	AML	BMT	Outpatient
3	18	17	ALL		Outpatient
4	11	6	NHL	BMT	Near discharge
5	15	14	AML	BMT	Outpatient
6	13	5	ALL	BMT	Inpatient
7	11	11	AML		Inpatient

N = 7 Male:1 Female: 6

ALL: acute lymphocytic leukemia

AML: acute myelogenous leukemia

NHL: non-hodgkin's lymphoma

Note: prognosis and told diagnosis are not included because of privacy.

Table 3. Frequencies of Strategies in 4 Concepts and 3 Phases

	Cognitive Discomfort			Distraction							Cognitive Comfort			Personal Competence			
	Case	Ts	Tr	Case	C	M	K	L	O	D	Case	F	H	Case	Ct	A	Tc
Inpatient Phase	1			1	*						1			1			
	2	*		2	*	*		*			2	*	*	2	*	*	*
	3	*	*	3	*						3	*	*	3	*	*	*
	4			4		*					4			4			
	5	*	*	5	*						5		*	5	*	*	*
	6		*	6	*						6	*	*	6	*	*	*
	7	*	*	7	*		*		*		7	*	*	7	*		*
	Total	4	4	Total	6	2	1	1	1	0	Total	4	5	Total	5	4	5
				Case	C	M	K	L	O	D	Case	F	H	Case	Ct	A	Tc
Near Discharge Phase				1							1	*	*	1			*
				2							2	*		2			
				3							3	*		3			
				4						*	4	*	*	4			*
				5							5		*	5			*
				6							6			6			
				7							7			7			
				Total	0	0	0	0	0	1	Total	4	3	Total	0	0	3
											Case	F	H	Case	Ct	A	Tc
Outpatient Phase											1			1			
											2		*	2		*	*
											3	*	*	3	*	*	*
											4			4			
											5		*	5	*	*	*
											6			6			
											7			7			
											Total	1	3	Total	2	3	3

n= 7

Abbreviations Ts: Thought- Stopping Tr: Thought-Reflection C: Cognitive clutter M: Made it this far K: Knowlege of surviviors
L: Looking forward to normalcy O: Others have hope for me D: Do something F: Forgetting H: Hopefulness
Ct: Commitment to treatment As: Adaptation to symptoms Tc: Taking care of problems

Tabel 4. Frequences of Strategies in 4 Concepts, 3 Phases, and 6 Areas

	Cognitive Discomfort							Distraction							Cognitive Comfort							Personal Competence						
	Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T
Inpatient Phase	1							1		*					1							1						
	2	*			*			2	*	*		*			2		*	*		*	*	2	*	*	*	*		
	3	*			*			3	*	*					3		*				*	3	*	*	*	*		
	4							4	*						4							4						
	5	*			*			5	*	*					5					*		5	*	*	*	*		
	6	*						6		*					6		*	*	*	*	*	6	*		*			
	7	*			*			7		*					7	*	*	*	*	*	*	7	*		*	*		
	Total	5	0	0	4	0	0	Total	4	6	1	1	0	0	Total	1	4	3	2	4	4	Total	5	3	5	4	0	0
								Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T
Near Discharge Phase								1							1	*	*	*	*		*	1					*	
								2							2				*			2						
								3							3	*			*			3						
								4	*						4	*		*	*		*	4						
								5							5			*				5					*	
								6							6							6						
								7							7							7						
								Total	1	0	0	0	0	0	Total	3	1	3	4	0	2	Total	0	0	0	0	2	0
															Case	C	F	S	Fr	P	T	Case	C	F	S	Fr	P	T
Outpatient Phase															1							1						
															2		*	*			*	2	*	*	*	*		
															3	*			*	*	*	3	*	*	*			
															4							4						
															5	*			*		*	5	*	*	*	*		
															6							6						
															7							7						
															Total	2	1	1	2	1	3	Total	3	3	3	2	0	0

n= 7

Abbreviations C: Cancer experiences F: Friendships S: Studies Fr: Family relationships P: Purposes T: Three wishes