



The Effect of Logotherapy on the Suffering, Finding Meaning, and Spiritual Well-being of Adolescents with Terminal Cancer*

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= Abstract =

Purpose: To evaluate the effects of a logotherapy education program. **Methods:** A nonequivalent control group, non-synchronized design was conducted with a convenience sample of 29 children with cancer. The experimental group (n=17) participated in the logotherapy education program which consisted of 5 daily sessions for one week. The control group (n=12) received the usual nursing care. The effects were measured using suffering, adolescent meaning in life (AMIL), and spiritual well-being (SWBS) scales. **Results:** There were significant differences in suffering ($W=153.00, p < .05$) and meaning in life ($W=78.00, p < .05$) between the experimental and control groups. However, there was no significant difference in spiritual well-being ($W=136.50, p > .05$). **Conclusions:** Logotherapy was effective in reducing suffering and improving the meaning in life. Logotherapy can be utilized for adolescents with terminal cancer to prevent existential distress and improve their quality of life.

Key words : Adolescents, Neoplasms, Quality of life, Spirituality, Palliative care

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Introduction

Despite the advances in medical technology, cancer continues to rank as the third leading cause of mortality among Korean adolescents. Although the complete recovery rate is 60%, about 30% to 40% of adolescents diagnosed with cancer die from complication and relapse (Korea National Statistical Office, 2006).

Adolescents in this transitory period for the growth of the secondary sex character may experience fluctuation of mood as well as depression. They may easily lose their adaptability to society due to sudden changes of their physical and psychological conditions (Korea Youth Research Association, 2003). During puberty, teens develop their own self-identity in society by seeking the meaning and purpose of their lives. Once they find the answers to life issues, they try to stand independently, aim at their goals and finally obtain self-esteem and self-identity with spiritual well-being in peace (Kang, 1998). If they fail to find the purpose of life, however, they readily lose confidence and fall into depression and meaninglessness which deprive them of their optimism and lead them to delinquency (Cho, 2000; Choi, 2000).

Adolescent terminal cancer patients experience twice as much suffering due to the combination of their illness with their adolescent changes. These physical and psychological stresses prevent them from overcoming their despair, depression, and pain. It is hard for them to develop their self-identity and find their purpose in life. Hope and meaningful lives seem impossibly distant (Choi, 2000).

Human beings try to determine the cause of their suffering and pain. Finding the meaning and purpose is the fundamental desire of humans and the basic driving force of life that may relieve them of their suffering and bring spiritual well-being (Frankl, 1963, 1988). Brallier (1992) stated that if those with terminal cancer realize the meaning of their suffering, they can alleviate their pain. Cassell (1982) underlined the meaning of suffering rather than pain itself. If people lose their meaning and purpose of life, they experience existential emptiness, which is the status of complete loss of the meaning of life, in combination with negligence, helplessness, emptiness, and despair (Frankl, 1988). Thus, it is essential to help adolescents with terminal cancer continue their search for the meaning of their life.

Fortunately, Frankl (1963) suggested that the most difficult

psychological issue facing modern people is existential emptiness due to a lack of meaning in life, and developed logotherapy to overcome this most challenging hurdle. Logotherapy, in other words, is a psychological, therapeutic treatment comprising a spiritual approach to the root of the problem, which helps people appreciate their responsibility for existence, gain liberty out of emotional distress, and find the meaning and purpose of their life. Frankl (1988) observed a case in which a terminally ill cancer patient lost the desire to live and ended up suffering from pain, but eventually succeeded in finding the meaning in life and became able to boldly accept his death with dignity. Based on this case, he concluded that pain and death were no longer a torment to patients if they succeeded in determining the meaning of their pain and life. His approach underscores the significance of spirituality and meaning as important resources and powerful predictors for coping with emotional and existential suffering as one nears death.

In Korea, nowadays, the quality of life (QOL) is receiving serious attention in every corner of society. In 1996, the Korean government undertook a ten-year project to support cancer patients. Since 2000, the administration has exerted much effort to institutionalize hospice and palliative care for terminal cancer patients by fostering professional personnel, establishing standardized proposals to improve the quality of treatment, systematically developing medical insurances, and establishing Korean-friendly hospice models through the selection of hospitals or institutions. In addition to the governmental efforts, more than 100 organizations have provided hospice and palliative care (Korea National Cancer Center, 2005).

However, in the clinics which presently provide care for adolescent patients with terminal cancer, many young patients experienced the sadness of death with their beloved family members in an environment where physical pain relief, treatment of complications, and emotional and spiritual care were not effectively performed during a long period of hospitalization (Jung, 2002; Yu, 2000). In the area of hospice and palliative care, it is essential to deal with the issues of young patients with painful terminal illness so as to improve their QOL by raising their physical, emotional, social, and spiritual statuses to the highest functioning level during the remainder of their lives. Particularly, hospice and palliative care is a process in which patients with terminal illness and

their caregivers develop a personal relationship. During the period of the care, the patients should be helped to live with the highest possible QOL by discovering the meaning of their life in its terminal phase (Moon et al., 2004). To achieve the best result, systemic and constitutional care intervention is required for adolescent patients to gain self-identity and find the meaning of life on the basis of the individual developmental characteristics.

Descriptive studies have been performed on Korean children and adolescents with cancer. Two studies examined the experiences of young cancer patients during the period of their disease and compared the needs for hospice care between families of children and adults with cancer (Kang & Kim, 2005; Kang, 1997). Son and Oh (2005) performed a study about the ego image of adolescents with cancer. These three studies identified emotional and spiritual care as the key requirements for optimizing the care for young cancer patients.

Due to the recent increase in the morbidity and mortality of cancer during the adolescent period, nursing intervention to reduce the suffering of adolescents with terminal cancer and enhance their QOL is required in the area of clinical practice. Kang, Kim, Lyu, You, & Song. (2007) developed a logotherapy education program named 'Finding treasures in my life' for adolescents with terminal cancer by applying the following suggested ideas of logotherapy theory: the features of human existence and the methods for determining the meaning in one's life. This study therefore investigated how this program affects patients with terminal cancer in terms of their suffering, meaning in life, and spiritual well-being.

Purpose

The study purpose was to test the effect of a logotherapy education program for adolescents with terminal cancer as a psycho-spiritual nursing intervention to reduce suffering and improve their meaning in life and spiritual well-being.

Definition of concepts

Suffering means an individual's report of his or her awareness of one or more changes in normal function, sensation, or appearance that cause him or her some degree of physical discomfort, mental anguish, or distress. That is, one or more changes from normal or usual physiological, psychological, social, and/or spiritual functioning that leads to suffering (Fochtman, 2006). Suffering was measured using Kang (1999)'s Suffering scale.

Meaning in life is described as the overriding goals of one's life that add purpose to everyday living as an individual's terrestrial experience and a primary motivational force in humans (Frankl, 1988). The meaning in life of the adolescents was measured by the Adolescents Meaning in Life (AMIL) scale which was revised by Kang, Kim, Song, & Shim (2007).

Spiritual well-being is defined as the affirmation of life in a relationship with God, self, community and environment that nurtures and celebrates wholeness (Soeken & Carson, 1987). Spiritual well-being was measured by Paloutzian and Ellison (1982)'s Spiritual Well-being Scale (SWBS).

Hypotheses

- Hypothesis 1. Difference in means of suffering in the experimental group will be larger than the control group.
- Hypothesis 2. Difference in means of meaning in life in the experimental group will be larger than the control group.
- Hypothesis 3. Difference in means of spiritual well-being in the experimental group will be larger than the control group.

Methods

Research design

A nonequivalent control group, non-synchronized design was

Table 1. Research Design

	2007. 4 ~ 2007. 8			2007. 9 ~ 2008. 1		
	Pre-test	Treatment	Post-test	Pre-test	Treatment	Post-test
Control group	Y ₁		Y ₂			
Experimental group				Y ₁	X	Y ₂

X : Logotherapy education program

Y₁: General characteristics, Suffering, AMIL(Adolescents Meaning in Life), SWBS (spiritual well-being scale)

Y₂: Suffering, AMIL, SWBS

utilized. Adolescents who were admitted to the pediatric cancer unit of a cancer hospital in Seoul from April to Aug 2007 were assigned to the control group, and from Sep 2007 to Jan 2008 to the experimental group (Table 1). The non-synchronized group assignment was used because of the possibility of treatment diffusion and due to the absence of randomized assignment as a result of the small sample size.

Participants

The inclusion criteria were: (a) 11-18 years of age, (b) diagnosed as stage III from an oncologist, (c) admitted to the pediatric cancer unit, (d) aware of their own diagnosis, (e) free of psychiatric disease, (f) no learning or developmental problems, and (g) capable of giving informed consent.

Forty-nine participants were recruited and 25 were assigned to the experimental group and 24 to the control group. Sample size calculations by Cohen (1988)'s rule using two-group comparison measures to determine a significant effect of a logotherapy education program with $\alpha = .05$, power = .70, and effect size = .80 indicated that sample size of 15 per group was needed. At the end of the study, 17 and 12 subjects remained in the experimental and control groups for the post-test measure, equating to dropout rates of 32% and 50%, respectively. The reasons for dropout were difficulty in communicating due to severe physical discomfort, transfer to the intensive care unit, discharge to home in a distant province after finishing their chemotherapy program, and death. Those in the control group were able to participate in the logotherapy education program after completing the post-test.

Logotherapy education program for adolescents with terminal cancer

Logotherapy is a therapeutic theory that focuses on humans' desire to answer the questions of why and how they live. Logotherapy enables the patients to find the purpose and meaning in their lives that empower them to have a responsibility to live and a liberty to enjoy (Frankl, 1988). In this study, the logotherapy education program developed by Kang et al. (2007) was applied to promote QOL by having adolescents with terminal cancer discover the meaning in life.

The 5 major contents of the educational program used in the experiment are presented in Table 2. The first educational step

introduced human's existence as the fundamental concept of logotherapy (Frankl, 1963, 1988). The second to fourth educational steps presented the three methods described by Frankl (1963, 1988) to educate humans on the method to determine the meaning in life in any situation. The sense of optimism acquired through creation and the experiences gained in life are involved in creative and experiential values, while the attitudinal value indicates the values of attitudes toward suffering and despair. Frankl (1963, 1988) stated the hope that people could find the meaning and purpose of their existence even in circumstances out of their control, according to the attitudes they adopt in situations beyond their control. The fifth educational step emphasized their own power as the owner of their life and specified the significance of selection and responsibility for being.

Procedure

The study was first approved and monitored by the university's institutional review board (IRB) and the IRB of a cancer hospital in Seoul for the protection of human subjects. The list of potential subjects was reviewed by the unit manager who assisted in participant recruitment to confirm the inclusion criteria. The researchers fully informed the adolescents and their parents in writing by detailing the nature of the study. Data collection commenced after written consent was obtained from both the adolescents and their parents.

The research assistant conducted the survey without knowing the identity of the two groups. After the pre-experimental survey, the five-session logotherapy education program was presented for one week at the pediatric oncology unit. The researcher taught two or three patients face-to-face for twenty to thirty minutes per session. The program comprised the following contents and features (Table 2). In the introduction, six footage cartoons were shown, indicating how the lesson was conducted to raise the attention of the participants. The participants next watched a movie for 10 minutes called 'Finding treasures in my life' based on logotherapy theory and made for adolescent patients with terminal cancer. Following the movie, a 'laughing song', which was specially invented for the experiment, was learned and sung by the participants to induce smiles and optimistic minds. As the main lesson, the participants were asked two or three short answer questions, based on the movie, that investigated the meaning in life and

Table 2. Contents of the Logotherapy Education Program

Program	Goals	Contents and procedures			
		Funny picture ⇒	Main contents named as "Finding treasures in my life" at CD program	Laughing song ⇒	Practice corner ⇒
1. period : Three natures of the human mind	Explain three natures of the human mind	Picture I (6 cuts)	<Three natures of the human mind> * Meaning of life : the reason for life and a purpose which is retained until death. * Freedom of will : freedom to have any attitude in any circumstances. * Will to meaning : the desire to satisfy and pursue the meaning and purpose.	The smile song	A booklet for practice
2. period : Creative value	Explain what works and things people want or can do for meaning and purpose for their life	Picture II (6 cuts)	<Method I to find meaning of life> * Creative value : is revealed by creative and productive activities such as hobbies or occupations including reasons to live.	The laughing blessing song	A booklet for practice
3. period : Experienti al value	Experience through means as : art, beauty of nature, loving relationships	Picture III (6 cuts)	<Method II to find meaning of life> * Experiential value : is obtained through life experiences by learning life values, communicating with useful persons, and enjoying the nature or arts with affection	The gentle smile song	A booklet for practice
4. period : Attitudinal value	People can find a reason to live through understanding purpose and definition to their suffering	Picture IV (6 cuts)	<Method III to find meaning of life> * Attitudinal value : refers to acquiring a certain attitude toward suffering. Based upon the way suffering is acknowledged, the reason for life will not disappear until the end of one's life	Why don't we laugh together? Song	A booklet for practice
5. period : Becoming the master of my life	Importance of selection and responsibility in life-management	Picture V (6 cuts)	<Becoming the master of my life> * Mastering my life, 'me'. * The importance of selection and responsibility in life-management * Selection: finding the best solutions to the problems of their life * Responsibility: accepting the results and responsibility for their actions	Hey, You! Laugh! Song	A booklet for practice

the participants wrote their reaction in a personal notebook provided after they applied for the lesson. During the education, the researcher did not indicate whether they were in the control or the experimental group. The experimental group was surveyed after the end of the five-session logotherapy program, with the help of the researcher assistant. In the control group, a post-test was conducted 1 week after the pre-test.

Measures

The adolescents' characteristics included sociodemographic variables, such as age, gender, religion, order of siblings and economic status, and health-related variables, such as diagnosis and the time of the first diagnosis.

Suffering was measured using Kang (1999)'s 37-item Suffering Scale consisting of a 4-point scale with a higher

score indicating higher suffering. The 37 questions were organized into 7 factors: family relationship, emotional condition, physical discomfort, meaning and goal of life, contextual stimuli, change of body image, and guilt feelings. In previous research for adult cancer patient's suffering, Cronbach's alpha for internal consistency was .92 (Kang & Oh, 2000) compared to .95 in this study.

The meaning in life of the adolescents was measured by the AMIL scale developed by Kang et al. (2007) as an adolescent version of the 'meaning in life' (MIL) scale developed by Choi, Kim, Shin, & Lee (2005) that comprised 46 questions for adults from a logotherapy perspective. The AMIL scale comprised 33 four-point scale questions with a higher score indicating higher meaning in life. The 33 questions were factorized into 8 factors: experience of love, make efforts eagerly, awareness of essential being, acceptance of limitation, feeling of satisfaction, relation experience, positive thinking,

and hope. In Kang et al. (2007)'s research for the development of the measure, Cronbach's alpha was .92, which was identical to that of the present study.

Spiritual well-being was measured by Paloutzian and Ellison (1982)'s SWBS. This tool was translated by Choi (1990) and revised to ensure reliability and validity by Kang (1996). The alpha coefficient was .93 in Kang (1996)'s research and .92 in the present study. The scale is composed of 20 questions organized into 3 parts (life satisfaction, purpose and meaning in life, and a sense of relatedness with a Supreme Being) with a four-point scale in which a higher score indicates higher spiritual well-being.

Two nursing professors and one school nurse checked the appropriateness of each item in the three instruments for adolescents and amended some of the questions to render them easier to understand. All the items of the three instruments were reviewed by 10 professionals (5 nurses, 2 doctors, and 3 nursing faculties in pediatric oncology) to test the content validity. The content validity index of all items was over 80%.

Statistical Analysis

Data were analyzed using SPSS/PC 17.0. The analyses were as followings:

- Descriptive statistics were used to analyze all the variables. The mean score of each scale was used for effective understanding of the meaning of score of the research variables.
- Either χ^2 test or Mann-Whitney-Wilcoxon (MWW) test was used to compare the homogeneity in general and diagnostic characteristics between the experimental and control groups. MWW test was performed to identify the homogeneity of outcome variables between the two groups' pre-test score.
- MWW test was used to test the differences in mean score change of the meaning in life, perceived suffering and spiritual well-being.

Results

Homogeneity Tests

None of the general and diagnostic characteristics of the participants differed significantly between the two groups. The

Table 3 Homogeneity Tests of General and Diagnostic Characteristics

Characteristics		Experimental group (n=17) n(%)	Control group (n=12) n(%)	χ^2 or MWW [†]	p
Gender	Male	11(64.7)	7(58.3)	.121	1.000
	Female	6(35.3)	5(41.7)		
Age (years)	Mean±SD	14.82± 1.46	15.75± 0.86	-1.593	.061
Religion	Christianity	11(64.7)	9(75.0)	.967	.617
	No-religions	6(35.3)	3(25.0)		
Economic level	Middle	8(47.1)	6(50.0)	.024	.876
	Lower	9(52.9)	6(50.0)		
Order of siblings	The eldest	4(23.5)	5(41.7)	1.613	.446
	The younger	12(70.6)	7(58.3)		
	The youngest	1(5.9)			
Diagnosis	Leukemia	4(23.5)	8(66.7)	6.051	.109
	Brain tumor	4(23.5)	1(8.3)		
	Osteosarcoma	7(41.2)	3(25.0)		
	Others	2(11.8)			
The time of the first diagnosis (months)	Mean±SD	32.88±23.09	34.33±12.94	1.124	.771

† MWW : Mann-Whitney-Wilcoxon test

Table 4. Homogeneity Tests for Outcome Variables between the Experimental and Control Groups

Variables	Experimental group (n=17) M±SD	Control group (n=12) M±SD	MWW	p
Suffering	2.64±0.30	2.64±0.21	-.027	.979
AMIL	2.47±0.32	2.52±0.22	-.499	.622
SWBS	2.46±0.41	2.52±0.22	-.505	.619

results of the tests are given in Table 3. The results of the homogeneity test of the outcome variables in the pre-test are presented in Table 4; none of the variables differed significantly between the two groups.

Hypothesis Tests

The results of hypothesis testing are presented in Table 5. The differences in the mean changes of suffering ($W=153.00$, $p < .05$) and meaning in life ($W=78.00$, $p < .05$) were statistically significant between the two groups. But the difference in the mean change of spiritual well-being ($W=136.50$, $p > .05$) was not statistically significant between the two groups.

Discussion

The logotherapy education program was effective in assisting the adolescent cancer patients to find the meaning in their life. No previous study has examined the effectiveness of logotherapy for adolescent cancer patients. This research, however, produced the same results as those of Cho (2000)'s and Choi (2000)'s studies. Cho (2000)'s experiment based on logotherapy found that the life purposes of Christian youngsters who participated in group counseling as an experimental procedure were improved. Choi (2000) achieved a critical influence on Christian teenagers with the same procedure. Daniel (1999) reported on the relationship between the meaning of life and the social adaptation of young cancer patients who exhibited a relatively low grade in their life purpose. The patients showed a satisfaction with their high level of psychological status, a sense of helplessness and a low QOL. Breitbart, Gibson, Poppito, & Berg (2004) also applied Frankl (1988)'s ideas about meaning-centered therapy

and proved the effectiveness of the therapy by helping terminal cancer patients learn the meaning of their life. The results obtained in these experiments support the capability of logotherapy to overcome existential emptiness and enhance the meaning and purposes of the patients' life. The treatment is an easily understood method of emotional and spiritual intervention for adolescents, irrespective of how terminal or chronic their cancers are, because it is specifically applied to each different developmental stage.

This study utilized Frankl's theory that if a young patient undergoing logotherapy treatment discovers the unique meaning of the suffering that they experience, then their suffering can no longer be defined as such. A direct comparison of the outcome gained from this experiment is limited as few studies have been conducted on young patients suffering from terminal cancer in the past. Kang(1998)'s research, however, is similar with the following experiments. According to Brallier (1992), even if terminally ill patients are close to death, they can lessen their suffering when they notice the meaning of their suffering. In his further research on the relationship between the meaning in life and suffering of cancer patients, their distress was decreased with increasing meaning in life.

The logotherapy education program performed in this research on adolescent patients with terminal cancer did not significantly change the spiritual well-being between the two groups. This contradicts Cho (2000)'s research result where group counseling sufficiently increased the spiritual well-being of a group of Korean youths to upgrade their faith in life or amend their behaviors and attitudes towards faith. Frankl strongly emphasized spirituality. He believed that as humans had body, mind, and spirit, the spirit must also be involved in the healing process. He also pointed out that the consideration of the soul was an important factor in health-related issues and a critical one in fixing spiritual welfare (Woodgate, Degner, &

Table 5. Mean Comparisons on Outcome Variables between the Experimental and Control groups

Variables	Group	Pre-test	Post-test	Difference (post-pre)	MWW (Mann-Whitney- Wilcoxon)	p
		M±SD	M±SD	M±SD		
Suffering	Exp. (n=17)	2.64±0.30	2.23±0.32	-0.41±0.21	153.00	.000
	Con. (n=12)	2.64±0.21	2.69±0.19	0.04±0.03		
AMIL	Exp. (n=17)	2.46±0.32	2.86±0.26	0.40±0.23	78.00	.000
	Con. (n=12)	2.52±0.22	2.51±0.24	-0.03±0.02		
SWBS	Exp. (n=17)	2.46±0.41	2.49±0.45	0.03±0.06	136.50	.114
	Con. (n=12)	2.52±0.22	2.51±0.24	-0.01±0.04		

$p < .05$

Yanofsky, 2003). Further study about spiritual well-being is needed with a larger sample size.

Frankl's logotherapy was not designed for patients with terminal illness who need existential treatment. However, in his statement, 'Facing death with dignity', he indicated that his treatment could be applied to terminally ill patients as such patients would obtain an incredible courage and braveness toward their death if they could find the meaning in life even in suffering. Fochtman (2006) also suggested that knowledge of how children and adolescents experience suffering would enable practitioners to design interventions to prevent or ameliorate their suffering. Frankl (1988) firmly asserted the capability of his therapy, when handled with respect for the uniqueness of human existence and spirituality, to be used as a spiritual intervention for patients with terminal illness. Therefore, his therapy was favored in the present research after comparison with that proposed in several other studies.

In the evaluation of this program conducted with the experimental group of 17 participants and one family who had finished the post-test, each showed a mean satisfaction of 4 on a 4-point scale. To various open questions, the experimental group expressed answers such as 'It was a very good program that made me find some meaning in living', and 'It was very helpful in finding the meaning of suffering'. As for the family's case, they responded 'It is a necessary program that is helpful emotionally'. These responses demonstrated that the need for emotional and spiritual caring was as great as that for chemotherapy and physical care.

Study limitation

The study had a few limitations. The control group was small because several patients could not finish the survey questions due to their weakened condition. The one-week intervention was short because of the patients' weak condition and this prevented the confirmation of any significant effect on spiritual well-being.

Conclusion

This logotherapy education program for adolescents with terminal cancer was found to be successful in reducing suffering and finding the meaning in life. As an emotional and spiritual intervention in a palliative care setting, the

logotherapy demonstrated the potential to effectively improve the QOL and prevent the existential emptiness caused by terminal illness for adolescent patients under serious stress. Further research with larger sample size is required to test the effectiveness as a psycho-spiritual nursing intervention in nursing area needed chronic and terminal care.

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