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The Effect of the 'Becoming Smart Patients' Program on Distress and Quality of Life among Cancer Patients in Korea

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Abstract

The purpose of this study was to investigate the effects of a nursing intervention program for cancer patient, using the concept of "smart patients", on patient distress and quality of life. This study was conducted by adopting a non-equivalent control group pre and post-test design for 21 cancer patients as an experimental group and 19 patients as a control group. The nursing intervention was applied to the experimental group for eight weeks, beginning January 10, 2015, while booklets on distress management were provided to the control group. To measure the distress and quality of life of subjects, the distress thermometer, problem list, and the Korean Version McMaster Quality of Life Scale (MQLS) were used. It is found that the 'Becoming Smart Patients' nursing intervention was effective in reducing distress and improving the quality of life of cancer patients. These results indicate that the nursing intervention program that helps patients become smart may reduce distress and improve the quality of life of cancer patients in South Korea. Nurses who care for cancer patients should recognize the importance of communication with family and medical staff.

Key words: cancer patients, distress, quality of life, communication

Ⅰ. Introduction

Cancer is currently the leading cause of death worldwide. The number of patients diagnosed with cancer in South Korea was 232,255 in 2017, and is increasing every year. By cancer type, the ratio of stomach cancer was the highest at 57.9 %, followed by lung cancer (54.9 %), colon cancer (52.7%), breast cancer (43.7 %), and liver cancer (30.1 %) (National Cancer Information Center, 2017). Patients diagnosed with cancer experienced dis(comfort and social constraints (cancer-related stigma, decreased social activity), conflict (family relationship, social conflict), and negative psychological conditions, such as depression and anxiety (Ellis, *et. al.*, 2016; Yang & Ryu, 2019).

A cancer diagnosis can create a threat to one's general sense of security and orderliness in life. Although the vast

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majority of cancers are treatable, many people retain deep-seated fear that any represent pain, suffering and death. And cancer is a family experience, and often family members have as many problems coping with it as does the diagnosed patient (Woźniak & Dariusz, 2014). Being a cancer patient is a crisis that causes a tremendous change in life. Cancer patients often suffer from psychological distress in every process from cancer diagnosis to treatment. Distress is a state of extreme sorrow, sadness, or pain. According to a study conducted in the US and Canada (Carlson, *et. al.*, 2019), 46% of subjects experienced significant distress (DT score ≥ 4). In South Korea, 65.5 % of breast cancer patients were reported to have to seek counseling from mental health experts because of psychological stress (Lee, *et. al.,* 2018). In addition, more than half of adult cancer patients over the age of 20 experienced significant distress (Yang, *et. al.,* 2018). Distress increases the blood concentration of inflammatory cytokines. It also activates the signal system, causing the 'sick behavior' of multiple symptoms, such as fatigue, depression, insomnia, and cognitive impairment. During treatment, distress hinders the ability to cope effectively with cancer (McGregor & Antoni, 2009). If this is not properly managed, symptoms of psychological distress continue to deteriorate even after the treatment is completed, causing chronic problems, and significantly reducing the quality of life (Cormio, *et. al.*, 2019; Park & Yu, 2019).

The United States regulates that the cause, level, and type of distress in all cancer patients are to be identified, and after the first visit of the patient, regular screening should be performed whenever symptoms change (National Comprehensive Cancer Network, 2010). Korea also emphasizes screening tests through distress management recommendation to improve the quality of life for cancer patients (Lee, *et. al.,* 2018).

Hence, distress experienced by cancer patients should be carefully monitored in clinical setting, and intervention strategies on alleviating distress and improving the quality of life of cancer patients should be continuously investigated. In particular, cancer patients may develop chronic communication problems, such as becoming lethargic from the disease during long-term treatment. This can lead to non-adherence to treatment and the reduction of drug compliance, which can ultimately aggravate the disease (Park, *et. al.,* 2018). It was reported that pharmacological and psychological interventions should be combined to manage the symptoms of distress, even after the treatment period and completion of cancer (McGregor & Antoni, 2009).

Korean cancer patients often have low rates of expression of patients' opinions to the medical staff about treatment, and have no family conversations about it (Park, *et. al.,* 2011). If their demands are not met, cancer patients can frequently have negative psychological status, resulting in serious changes in their quality of life (Manne, *et. al.,* 2014). On the other hand, honest expression of their feelings and concerns about cancer can enhance intimacy and empathy with family and medical staff, and create positive relationships (Park, *et. al.,* 2018). Communication involving this self-exposure not only helps establish the role of family caregivers, but is essential to the adaptation of cancer patients to disease, and the improvement of their quality of life (Hagedoorn, *et. al.*, 2011). Thus, cancer patients can develop communication skills to fully express their needs to their families and medical staff, enabling effective counseling about diseases. A high percentage of them tend to hesitate in communication, as they experience various discomforts (physical change, body image and self-concept disturbance, social role and family relation change, and fear of death) and helplessness toward recurrence, while

many cancer patients undergo diagnosis and treatment. These discomforts cause uncertainty about the future, which necessitates a supportive nursing intervention program that helps to communicate effectively (Manne, *et. al.*, 2014). The results can be inferred that nursing interventions strengthening communication skills have positive effects on the distress management and quality of life of cancer patients. Therefore, it is necessary to develop specific nursing intervention, and to try further studies to verify the effectiveness of the program.

This study considered the concept of 'becoming smart patients'in this context. In many foreign countries, specific ways to become smart patients (medical cost, insurance, prescription, information collection from web sites, general information on the disease, and last issues of life) are posted to the public through their web site and mass media (Discovery Communications, 2009). A concrete theme identified in the EU Health Strategy includes empowering citizens-putting patients at the heart of the system and encouraging them to be involved in managing their own health care needs. This strategy provides preventive care, so that the patient is not disconnected from the medical practitioner and the hospital, thereby empowering the patient to become a smart patient on his or her own (Rijeci & Fakultet, 2018).

The smart patient program is often used in family planning education for local women. In Indonesia, communication skill and participation with medical practitioner of subjects increased after the program was applied (Kim, *et. al.,* 2006-2007). Research on smart patient programs in Korea has been attempted on service providers and breast cancer patients in hospice care areas (Park, *et. al.,* 2009; Park, *et. al.,* 2011). This program was used as a guideline to provide hospice acre to terminally ill patients, which was aimed at maintaining communication between patients and medical staff (Park, *et. al.,* 2009). Cancer patients with patient education and individual counseling have eased distress, and improved quality of life (Lee, 2014). In Korea, it was used as a guideline for hospice palliative care for terminally ill patients, and it has been proven effective in improving communication skills and managing distress of patients. But few studies have addressed the effects of this program to cancer patients hospitalized in ward. Therefore, this study investigates the effects of a nursing intervention program for cancer patient, which uses Smart Patients Care Program to relieve the level of distress and distress problems and improve their quality of life through effective communication skill of patients hospitalized in cancer ward.

The hypothesis is following:

1) The cancer patients of the intervention group would report significantly lower level of distress than those of comparison group.

2) The cancer patients of the intervention group would report significantly fewer distress problems than those of comparison group.

3) The cancer patients of the intervention group would report significantly higher level of quality of life than those of comparison group.

II. Method

1. Research design

A non-equivalent comparison group pretest and posttest design was used to investigate the effects of the 'Becoming smart patient' nursing intervention on the distress and quality of life among cancer patients.

2. Participants

Participants were patients who were diagnosed with cancer at two advanced general hospitals based in B-metropolitan city, and who received treatment (including

chemotherapy, radiotherapy, and surgical therapy), and follow-up. The inclusion criteria were as follows: 1) patients aged 18 and over, 2) patients who had insight about illness, 3) patients who understood the purpose of this study, and who signed the consent form, 4) patients without mental illness or underlying disease, and who were good communicators.

The sample number was calculated using G*Power software program 3.1.5 version with a significance level (α) of 0.05, effect size of 0.05, and impact power of 0.80, which are the conditions required for a t-test. The results showed that 34 patients were required, 17 subjects for each of the experimental and control groups. Considering a dropout rate (20%), 42 patients were selected at sampling and 21 patients were assigned to each group. The final set of participants consisted of 21 patients in the experimental group and 19 patients in the control after excluding two who did not participate in the post-test measurement. A small reward was given to all participants who completed the program.

3. Measurements

1) Distress: The distress thermometer and problem List (DT/PL) developed by the National Comprehensive Cancer Network (National Comprehensive Cancer Network, 2010) were used to measure the distress of subjects. The distress thermometer (DT) is designed to assess the severity of distress on a 0 (not at all) − 10 (most severe) visual analog scale shaped like a thermometer. Higher scores indicate a higher level of distress.

The DT is used in conjunction with the PL, with assesses 36 items in categories of physical problem (22 items), substantive problem (5 items), family problem (2 items), emotional problem (6 items), and spiritual problem (1 item). The participants select whether or not (1 or 0) he or she experiences each of the 36 items. Higher scores indicate a greater number of problems. For DT/DP, the use of the Korean Edition − NCCN Guidelines for Distress Management Version 2 was approved by the NCCN permission Requests Submission (National Comprehensive Cancer Network, 2010). It showed good internal consistency (KR-20=.82).

2) Quality of life: The McMaster Quality of Life Scale (MQLS) (Sterkenburg, *et. al.*, 1996) was used in this study to measure quality of life. This study employed the Korean version of the quality of life instrument for cancer patients, which was translated into Korean (Kim, 2010). This tool consists of 32 items on global health status/ quality of life, physical function (11 items), emotional function (5 items), social function (2 items), role function (4 items), other nonphysical function (7 items), and 1 item on total quality of life. Quality of life was assessed using a score ranging (1 to 10)(extremely bad to extremely good). Higher scores indicated a higher quality of life. The Cronbach's α for this scale in this study was .81.

4. Data collection and ethical consideration

After the approval of the Institutional Review Board (File no. 05-2014-065), this study was started. The investigators explained the objectives and methods to the participants. Participants were identified by number to protect their anonymity. They were allowed to revoke their consent at any time during the study, and to drop out for any reason.

This study was conducted in two phases. In the phase 1, the contents of the nursing intervention program were determined and the validity and reliability were verified. Education contents were developed base on previous study (Lee, 2014). First of all, the contents of education was physical symptom, psychological problem, training of communication skill for distress management. Education method provided individual education and counseling for meeting the patients' demands for information (symptom

management for cancer, adverse reaction of chemotherapy, and targeted therapy) and training for coping and counseling to reinforce the communication skills on self-exposure.

Content validity was evaluated by experts who identified the entire domain of content relevant to the research, and then evaluated the instruments associated with the program. Feedback was obtained from a panel of five associated with the smart patient experts who had positions in research, academia, and clinical practice. This program was revised and modified by experts' suggestions, and the adequacy of the program was evaluated by cancer patients who did not participate in this program.

On the week of starting the program, pre-test was conduct. After providing education on diagnosis and treatment of cancer symptoms, counseling on individual condition was conducted. From two to seven weeks, they were trained to effectively communicate with medical practitioners, including the attending physician, and asked to make a list of questions that they came across during their disease progression through a individual education and counseling. In the last week, post-test was conduct. patients were asked to make a list of messages they wanted to deliver to their family members.

In second phase, before data collection commenced, the nurses were trained as research assistants who was nurse practitioner of the cancer ward with five or more years of clinical experience were selected. They were educated twice on the contents of the questionnaire, data collection, and intervention.

Data were collected at pre-test and post-test by research assistants over the 8 weeks. In the pre-test, general characteristics, disease-related characteristics, distress, and quality of life were measured in the experimental and control groups. The participants completed the questionnaire by self-administration. Nursing intervention was applied to the experimental group for eight weeks beginning from January 2015. The finalized nursing intervention program consisted of eight weeks of intervention conducted once a week for 20–30 minutes. It also included six weeks of individual education and counseling in the hospital, and two weeks of phone counseling. For effective implementation of the intervention program, the booklet of 'Becoming smart patients' nursing intervention protocol for cancer patients was created, and each copy was handed out to participants. They were asked to write down the problems they were experiencing. The concept of a smart patient indicates a patient who actively participates in the medical process as a result of providing information to the patient, so that he or she can cope with his or her disease, and allow him or her to choose his or her own rights. In addition, a checklist was provided each week, and the participants performed and reviewed activities for psychological health each day. The following week, the checklist was reviewed, and feedback was provided. When wrapping-up at the end of the week, the participants received one-on-one counseling from a nurse for 10 minutes, and were encouraged to continuously participate in the intervention (<Table 1>).

In the control group, during the first meeting week, the importance of distress management in cancer patients and overall self-management according to the progression of cancer were explained to the participants for 30 minutes. Then, the booklets on distress management were provided, and pre-test measurement was conducted. After measurement, individual counseling regarding distress was provided for 20 minutes. In the post-test, research assistants measured distress and quality of life in two groups using the same questionnaire as in the pre-test.

5. Data analyses

The statistical analysis was performed using SPSS 25.0 program. Independent t-test and chi-square test were

Table 1. Becoming smart-patients nursing intervention for cancer patients

Session (Min)	Theme	Contents	Method
1(20)	Managing of physical symptoms	1. Opening (greeting and intervention program) 2. Pre-test (questionnaire survey) 3. Education about cancer diagnosis and treatment related to symptoms 4. Counseling to recognize body condition	Guidebook (handbook) and counseling
2(20)		1. Education about side effects of chemotherapy 2. Counseling about body condition	Telephone counseling
3(30)		1. Education about targeted therapies and daily living management 2. Counseling about daily life	Individual education and counseling
4(30)	Coping of psychological problems	1. Education about psychological problems of the cancer patients 2. Encouraging to communicate with family	Individual education and daily diary writing
5(20)		1. Education about pain and nutrition for psychological adaptation 2. Counseling issues related to mental state	Telephone counseling
6(20)		1. Education about embracement of oneself end of life 2. Counseling on the state of mind	Individual education and counseling
7(30)	Improving to communication skill	1. Education about communication skill with medical staff 2. Make a list of questions arising from the disease process	Counseling and list of communications
8(20)		1. Make a list of communication with family 2. Encouraging to attempt communication with them (family and doctors) 3. Post-test, and closing ceremony	Counseling and list of communications

conducted to test the homogeneity of the participants' general characteristics, disease-related variables, and major variables. To validate the effects of the intervention program, a paired t-test was conducted for the variables showing normal distribution, and KR-20 and Cronbach's α were calculated to test the reliability of the tools.

Ⅲ. Results

1. Homogeneity on between intervention group and comparison group

Homogeneity between the experimental and control groups was presented in the <Table 2>. There were no significant differences in demographic characteristics such as age (t=1.29, p=.206), gender (t=1.27, p=.454), spouse (t=1.75, p=.185), education (t=3.31, p=.507), economic status (t=0.90, p=.757) and religion (t=2.72, p=.437). And there was no significant difference in disease-related characteristics of the subject such as type of cancer (t=0.11, p=.736), a period of illness (t=2.79, p=.425), status of metastasis (t=0.62, p=.697), and status of recurrence (t=2.47, p=.238), which indicates their homogeneity (<Table 2>).

There were also no significant differences in the level of distress (t=0.40, p=.691), subdomain of distress problems (t=1.45, p=.164), and quality of life (t=1.02, p=.322) between the experimental and control groups, indicating their homogeneity (<Table 3>).

2. Comparison of scale scores before and after the intervention application

First, the score of distress significantly decreased after the intervention in the experimental group (t=3.86, p=.001). Second, the distress problems were significantly decreased in the experimental group (t=9.58, p<.001). Physical problems (t=32.38, p<.001), substantive problems (t=4.61, p<.001), and emotional problems (t=4.53, p<.001) in each subcategory were significantly decreased in the experimental group after intervention. However, there was

Table 2. Homogeneity test of general and disease characteristics (N = 40)

Characteristics	Categories	Exp.(n=21)	Cont.(n=19)	χ^2/t	p
		n(%)/M±SD	n(%)/M±SD		
Age(year)		72.47±6.62	68.76±11.48	1.29	.206
Gender	Male Female	18(85.7) 3(14.3)	14(73.6) 5(26.4)	1.27	.454*
Presence of spouse	Yes No	15(71.4) 6(28.6)	11(57.9) 8(42.1)	1.75	.185
Level of education	≥ Middle school High school ≤ College	14(65.9) 6(28.6) 1(4.8)	9(47.4) 8(42.1) 2(10.5)	3.310	.507
Subjective economic status	High Middle Low	1(4.8) 8(38.1) 12(57.1)	1(5.3) 10(47.6) 8(42.1)	0.09	.757
Religion	None Protestant & catholic Buddhism	9(42.9) 2(9.6) 10(47.6)	7(36.8) 5(26.4) 7(36.8)	2.72	.437
Diagnosis	Lung cancer Gastrointestinal cancer Breast cancer Gynecology cancer Blood cancer	3(14.2) 11(52.4) 5(23.8) 1(4.8) 1(4.8)	2(10.5) 10(52.6) 4(21.1) 1(5.3) 2(10.5)	.11	.736
Period of cancer diagnosis	< 1year 1-<2year 2~<3year ≥3year	3(13.3) 7(34.0) 4(20.8) 7(31.9)	7(36.8) 2(10.5) 9(47.4) 1(5.3)	2.79	.425
Treatment**	Surgical therapy. Chemotherapy Radiotherapy Immunotherapy	16(80.6) 15(73.6) 8(37.5) 3(14.6)	14(75.6) 15(78.6) 6(32.5) 2(10.6)		
Metastasis	Yes No	18(85.7) 3(14.3)	16(76.2) 3(23.8)	0.62	.697
Recurrence	Yes No	6(28.6) 15(71.4)	2(9.5) 17(90.5)	2.47	.238

**Multiple response

Table 3. Homogeneity test of dependent variables (N = 40)

Variables	Exp.(n=21)	Cont.(n=19)	t	*p*
	M±SD	M±SD		
Distress score	5.92±1.62	5.91±1.77	0.40	.691
Distress problem	27.78±2.63	28.83±1.96	1.45	.164
Quality of life	187.05±15.43	191.70±18.91	1.02	.322

no significant difference between experimental and control groups in family problem and spiritual problem.

Third, the quality of life significantly increased after the intervention in the experimental group(t=3.25, *p*=.004), whereas there was no significant difference between the pre-test and post-test scores in the control group (<Table 4>).

Table 4. Effects of intervention on dependent variables (N = 40)

Variables	Group	Pre-test	Post-test	Pre-Post	
		M±S.D	M±S.D	t or U	*p*
Distress score	Exp.(n=21) Cont.(n=19)	5.92±1.62 5.85±1.77	3.78±1.62 6.33±1.37	3.86 2.13	.001 .105
Distress problem (total)	Exp.(n=21) Cont.(n=19)	27.78±2.63 28.83±1.96	22.83±1.83 27.93±3.32	9.58 1.06	<.001 .304
Physical problem	Exp.(n=21) Cont.(n=19)	12.72±1.62 12.24±3.03	6.64±0.67 13.00±1.40	32.38 0.94	<.001 .358
Substantive problem	Exp.(n=21) Cont.(n=19)	3.67±0.44 3.63±0.44	3.17±0.44 3.49±0.32	4.61 1.18	<.001 .253
Family problem	Exp.(n=21) Cont.(n=19)	1.17±0.29 1.07±0.26	1.22±0.26 1.07±0.25	1.18 1.78	.089 .252
Emotional problem	Exp.(n=21) Cont.(n=19)	3.94±0.50 3.99±0.54	3.39±0.42 4.23±0.55	4.53 1.95	<.001 .065
Spiritual problem	Exp.(n=21) Cont.(n=19)	0.73±0.15 0.72±1.48	0.69±0.10 0.73±0.15	1.32 0.01	.202 1.000
Quality of life	Exp.(n=21) Cont.(n=19)	187.05±15.43 191.70±18.91	199.40±13.54 195.05±15.18	3.25 0.87	.004 .396

Ⅳ. Discussion

This study was conducted to investigate the effects of the ‘Becoming smart patients’ nursing intervention on psychological distress (DT & PL) and quality of life for cancer patients. The level of distress of participants in the experimental group showed decreased DT score after providing the ‘Becoming smart patients’ nursing intervention. This is partially similar to the previous studies (Kim, *et. al.,* 2018; Park, *et. al.,* 2018). These studies reported that the distress and depression symptoms of patients subsided when 1) nurses provided supportive counseling, including symptom management education and relaxation therapy (Park, *et. al.,* 2018); 2) delivered nurse-led psychological intervention to identify physical and emotional problems and social problems derived from daily life; and 3) trained cancer patients in problem-solving methods (Kim, *et. al.,* 2018). The distress of cancer patients has negative effects on the adaptation of daily life after completing treatment. The subjects in this study were educated one-on-one on the physical and psychological symptoms they experienced, and how to cope with them through two face-to-face and one phone counselling sessions in the experimental group. But, two subjects in the control group were drop out this program. They refused to visit the hospital more than two times out of 8 weeks. It is estimated that they complained of depressive and fatigue. The subjects who dropped out reported, on average, more depressive symptoms, and lower quality of life score at baselines. Therefore, nursing intervention to control the psychological distress of cancer patients should be continuously provided, even after treatment ends, which can offer an opportunity to acquire resilience to adapt as a cancer survivor.

There were significant beneficial effects on three domains (physical, practical, and psychological) of the distress problem list by this intervention. Although there were no previous studies that analyzed the change of distress problem list after apply the ‘Becoming smart patients’ nursing intervention, these results are similar to those of a previous study that developed a nurse-led program that integrated counseling and education to control symptoms (Bayati, *et. al.,* 2019). The intervention of this study was problem-focused and started with a short

screening with the DT & PL, followed by discussion of current problems and the giving of advice, emotional support, education, and behavioral training. A high percentage of patients do not receive sufficient information during the treatment process after diagnosis with cancer, and can not effectively communicate with medical practitioners, regarding their individual demands and questions. One of the significances of this study is that nurse-led counseling was conducted that allowed the cancer patients to actively express their distress experienced during the disease process, as well as the psychological and emotional problems caused by symptom changes, and to manage their symptoms by communicating with medical practitioners. This finding presents specific strategies for practical and individual counseling on the physical and psychological problems of cancer patients. However there was no significant change of family problem and spiritual problem after the application of program in the experimental and control group. In Indonesia, an intervention using the concept of smart patients that integrates individual health education (Smart Card) and group health education (Friend mass media campaign) for family planning was implemented (Kim, *et. al.*, 2006-2007). The results showed that participants effectively communicated with the nurses by asking questions based on their demands, which led to a higher level of participation. This suggests that the delivery of practical knowledge to meet the demands of participants effectively improved their satisfaction and participation in education. As a result, a comprehensive approach including family problems is needed, not just focusing on reducing the physical and emotional distress among cancer patients,

The focus of the becoming a smart patient intervention is to allow patients to acquire specific knowledge, instead of delivering a broad spectrum of information based on extensive data, which meets their demands. Through this, patients become more importantly captain of their own disease and a partner to medical practitioners, and furthermore, serve as a supervisor of their medical behavior (Chen, *et. al.*, 2017). More effective interventions were revealed in a review that showed multi-dimensional intervention, including education and counseling, was effective in psychological empowering and in strengthening communication skills. After the 'Becoming a smart patient' nursing intervention was completed, the participants of this study asked questions about symptom management and expressed their psychological emotions, which allowed them to obtain customized information and knowledge, and restored their confidence in self-management. These results are likely to have positive effects on reducing the distress caused by a cancer diagnosis, and solving the problems regarding physical symptom management and daily living.

In this study, 'Becoming smart patients' nursing intervention improved the quality of life in cancer patients. This finding is consistent with previous study (Park, *et. al.,* 2011; Wu, *et. al.,* 2018), indicating that the becoming a smart patient intervention and psychoeducation intervention including psychoeducation and consultation increase a communication skill, thus improve the quality of life. In general, patients diagnosed with cancer have alow understanding of the disease during the treatment process, and complain of concerns on disease progression, fear of death, loss of body image caused by surgery, difficulty returning to work, decreased income, status change in the family and society, discomfort from radiation and chemotherapy, and medical costs (Park, *et. al.,* 2018). This situation may affect negatively on the quality of life. By these results, the patients thought of questions and solutions for their fatigue, pain, shooting pain in hands and feet, or changed looks, and communicated them to the nurses. They also recognized the severity of their concern, fear, sadness, and neuroticism that they had

overlooked, and attempted to find proper coping strategies. Through individual counseling on physical and psychological symptom management, the patients began to positively cope with practical problems arising in their daily lives, and experienced improved quality of life. In other words, our findings showed that providing education and counseling allowed the patients to make decisions that meet their demands, and to actively choose their treatment process, which ultimately brings positive effects on their quality of life. Hence, providing specific information to cancer patients on their physical symptoms and psychological problems that meet their demands, as well as providing practical and supportive counseling, can be effective strategies to improve their quality of life. But forth is finding to be generalized, replication studies implementing the nursing intervention program using the concept of smart patient developed in this study and validating its effects are required.

V. Conclusions

The 'Becoming smart patients' nursing intervention program developed in this study consisted of general education, counseling, and training on communication skills. After the nursing intervention, there were significant differences in the psychological distress and quality of life in the experimental group. In the experimental group, the levels of distress and physical, substantive, and emotional problems out of distress problem lists significantly decreased, and quality of life also significantly improved. Therefore, the 'Becoming smart patients' nursing intervention program can be used to alleviate distress and enhance the quality of life in cancer patients. Because a periodic distress screening test can be a crucial element in distress management and nurses should care for the patients' distress problems, we propose the active use of this nursing intervention program in the clinical field. However, these study results should be carefully interpreted, due to the following limitations. As the subjects of this study were cancer patients from a general hospital located in a specific area in South Korea, hasty generalization should not be made from our results.

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스마트환자되기 간호중재가 암환자의 디스트레스와 삶의 질에 미치는 효과

국문초록 본 연구의 목적은 스마트환자 개념을 사용하여 암환자를 위한 간호중재 프로그램이 디스트레스와 삶의 질에 미치는 효과를 알아보는 것이다. 비동등성 대조군 전후 연구설계가 사용되었다. 대상자는 암환자로서 실험군에는 21명, 대조군에는 19명으로 구성되었다. 간호중재는 2015년 1월 10일에 시작하여 8주 동안 실험군에게 적용되었다. 대조군에게는 디스트레스 관리에 대한 유인물이 제공되었다. 대상자의 디스트레스와 삶이 질을 측정하기 위해 디스트레스 온도계, 문제 목록, 한국판 McMaster Quality of Life Scale (MQLS)가 사용되었다. ‘스마트환자되기’ 간호중재는 디스트레스 정도와 일부 디스트레스 문제를 감소시키고, 삶의 질을 증진시키는데 효과적이었다. 이 결과는 스마트환자되기 간호중재 프로그램이 한국의 암환자에게 디스트레스를 낮추고, 삶의 질을 증진시키는데 사용될 수 있음을 보여준다. 한국의 암환자를 돌보는 간호사들은 가족 및 의료진과의 의사소통이 중요함을 인식해야 한다.

주제어 : 암환자, 디스트레스, 삶의 질, 의사소통

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