

# Impact of the Multidisciplinary Education Program in Self-Care on Fatigue in Lung Cancer Patients Receiving Chemotherapy

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**Background:** Lung cancer has high mortality rates, with up to 90% of patients dying within one to two years of its onset. It is essential to carry out research to attempt to solve the problems. Most patients suffer serious fatigue resulting from various symptoms and its long-term treatment. Furthermore, the other related complications such as underlying disease, anemia, malnutrition, nausea, and vomiting can reduced tolerance of chemotherapy. Study showed that nurses are the only hospital staff involved in managing fatigue. As it remains unclear to how fatigue should be managed, it is important to devise a strategy for providing a better service to help these patients survive longer.

**Objective:** To examine fatigue scores in patients with lung cancer after chemotherapy treatment, and to compare the scores of the group receiving the multidisciplinary education program in self-care group with those of the control group.

**Material and Method:** A randomized controlled trial was conducted in two groups. The control group and the trial group were 30 patients in each. Studied aged from 45 to 65 years old who were receiving chemotherapy at the Chemotherapy Unit in the Out-Patients Department, Rajavithi Hospital. For a nine-week period, the control group received the hospital's normal care program while the trial group received the multidisciplinary education program in self-care on fatigue. Scores were allocated to each individual to reflect their levels of fatigue, nutrition, physical fitness, and depression, compared using Independent t-test, Fisher exact test, and Mann-Whitney U-test.

**Results:** Sixty patients were enrolled into the study (mean age = 56.10 (45-65), male = 68.33%). The basic characteristics of each individual were not significantly different between the two groups. The mean ( $\pm$  SD) fatigue scores were  $2.98 \pm 1.96$  and  $3.99 \pm 1.64$  for the control and the trial group respectively, and these figures were statistically significant ( $p = 0.036$ ). Nutrition scores were significantly higher in the trial group than in the control group ( $p = 0.002$ ), but the other scores weight, albumin, physical fitness, and depression were not significantly different between the two groups.

**Conclusion:** The multidisciplinary education program in self-care results in decreased fatigue in patients with lung cancer who are receiving chemotherapy. Therefore, it is recommended that more health professionals and specialists participate actively in patient care to respond directly to patients' needs. This strategy should be adopted as the standard guideline for caring for patients with cancer who are receiving chemotherapy, and for patients with other conditions.

**Keywords:** Chemotherapy, Cancer, Fatigue, Multidisciplinary, Self-care, Education programs

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Lung cancer has high mortality rates worldwide and is a major problem that requires a clear strategy for patient care and treatment<sup>(1,2)</sup>. Fifty percent of patients with cancer have onset at the metastasized stage and 90% of these patients die

within one to two years, while the overall 5-year survival rate is 15%<sup>(3,4)</sup>. Lung cancer is the second most common cancer found in Thailand<sup>(5)</sup>. In 2008, 2009, and 2010 in Rajavithi Hospital, 186, 191, and 200 patients were diagnosed, and mortality rates are highest among patients with co-morbid conditions. Further study is required, as fatigue is the most prevalent symptom found in patients with cancer who are receiving long-term chemotherapy treatment<sup>(6)</sup>.

Chemotherapy treatment results in inactivity and drowsiness in the patient, and is likely to be caused

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by other factors including diabetes, hypertension, anemia, malnutrition, pain, insomnia, anxiety, or reduced movement<sup>(9)</sup>. More importantly, cancer cells are damaged after patients have received chemotherapy. This contributes to cell retention, which leads to muscular fatigue<sup>(10)</sup>. Competition for nutrients between cancer and normal cells results in a high metabolic rate, and nutrients are used up more rapidly<sup>(11)</sup>. In addition, misguided insistence on eating only certain kinds of food is likely to induce more fatigue<sup>(12)</sup>, and cause more toxicity<sup>(13)</sup>. Finally, quality of life and survival rates are also adversely affected<sup>(14-16)</sup>.

Nurses are the only health care workers who participate in a practical way in the management of fatigue, and only one strategy has been applied. Therefore, the patients may not fully understand how to exercise while receiving treatment<sup>(17)</sup>. Furthermore, co-operation between health care workers is essential to give as much help as possible to patients who suffer from fatigue. However, it remains unclear as to what strategy should be used to manage this condition in patients with cancer. Therefore, it is important to develop and standardize some strategies aimed at improving patients' quality of life<sup>(18)</sup>.

One strategy should be to encourage co-operation between specialists working in different fields of health care who should work together to educate the patients decrease the risk of fatigue after treatment. Nutrition should be given to plan devised by a nutritionist; physical therapists should help physical fitness; and psychological nurses could help signs of depression. The present study aimed to examine fatigue in patients with lung cancer and compare the group receiving normal care with the group receiving the multidisciplinary education program in self-care that may be applied to patient care programs in the future.

### Material and Method

The present study was conducted as a randomized controlled trial and 60 patients were recruited from the cancer clinic in Rajavithi Hospital between August 2011 and September 2012. The patients were divided into two groups (control group = 30, trial group = 30).

Participant were aged between 45 and 65 years, had been diagnosed as stage 3 or 4 lung cancer, received at least one treatment of platinum-based chemotherapy within the second and fourth round of therapy, performance status of ECOG = 0-1,

good physical fitness, self-care, minor side effects, no history of tinnitus, able to read and write Thai, and willing to participate, and had given written informed consent, were recruited included. Participant who had other conditions such as high fever, nausea or vomiting, diagnosed with diabetes and required treatment, current cardiac arrhythmia and required treatment, were not self-dependent because of movement disabilities such as knee joint defects, muscular dystrophy or paralysis, or were unable to walk for a distance of 10 meters, were excluded.

### Sample size

The following formula was used to calculate the means and make comparisons between groups<sup>(19)</sup>

$$n = \frac{(Z_{\alpha}/2 + Z_{\beta})^2 \times 2\sigma^2}{(\mu_1 - \mu_2)^2} = \frac{(1.96 + 1.282)^2 \times (2 \times 1.271)}{(0.255 - (-0.895))^2}$$

In the pilot study, only 24 patients were recruited into the group receiving the multidisciplinary education program in self-care, but the present study recruited 30 patients.

### Procedure

Once the Ethics Committee of Rajavithi Hospital had approved the study, the patients who were randomized using the "Block 4" pattern:

### Trial group

Patients in this group received training from specialists who were experts in different fields of medical health care. Problems and patients' requirements were identified and assessed by a nurse who was working in the cancer unit. The self-care program was clearly explained to the patients in order to decrease the risk of fatigue that might occur during the course of chemotherapy. The first meeting between the specialists and the patients lasted up to 90 minutes. Brief instructions (15 minutes' reading) were given to the patients to review at home and thereafter the patients met with a physical therapist. At the first 30-minute meeting with the physical therapist, the patients were taught how to breath properly and were designated a program of exercises to do at home of which they were asked to keep a record. Then the patients met with a nutritionist for 30 minutes to have their nutrition needs assessed and received an explanation of what nutrition was required during the course of chemotherapy treatment. Finally, a psychological nurse spent 15 minutes talking to the patients in order to get to know how they were feeling

and teach them how to look after themselves during the course of chemotherapy to prevent possible depression.

The second meeting (third week) took around 60 minutes. The nutritionist spent about 30 minutes reviewing the information that had been previously explained to the patients, and asked them about the effects of receiving different nutrients, and whether they had experienced any problems or adverse reactions. The nutritionist helped resolve any problems that the patients might have encountered as a result of their diet and checked their body weight. Patients who were suffering from malnutrition or were unable to eat according to the nutritionist's recommendations were given supplementary diets that contained high levels of energy and protein. To enable the nutritionist to keep a record of patients' food consumption, the patients were taught to record what they ate on a daily basis for three to seven days. Thereafter, the physical therapist spent 30 minutes reviewing and assessing the capability of the patients to exercise and adjusted their level of exercise according to the physical fitness of each individual.

The third (sixth week) meeting took up to 60 minutes. The psychological nurse spent 10 minutes talking to the patients to review the information that had previously been given to them and listen to the problems they had experienced during the treatment. Another 10 minutes was spent with a nurse at the cancer unit who questioned the patients about the side effects and other complications that might have occurred during the treatment and helped them to sort out the problems in order to prevent any exacerbation in their severity. The patients then met with the physical therapist for 20 minutes and were given a chance to assess the activities that they were performing and decide whether they were effective and useful or not. All problems and any other adverse factors that the patients encountered were discussed, and if the physical therapy exercises were not proving beneficial, a new plan was created. Finally, the patients met with a nutritionist who spent 20 minutes evaluating their nutritional status by tracking their food consumption, side effects after nutritional receipt, and body weight.

At the fourth (ninth week) meeting, each specialist summarized the results and informed the participants that the study was terminated.

#### **Control group**

Patients met with specialists according to the same schedule as that of the trial group, but the only

person who provided service and information to them was the nurse at the cancer unit. The patients received training for 30 minutes on how to exercise during their course of chemotherapy sessions, and instructions were given to the patients to take home and review. If the patients had any queries about the instructions, a future appointment could be made. Then the researcher collected the data obtained from the forms and questionnaires. After the data was collected, the patients received advice on how to exercise during their course of chemotherapy treatment from different specialists in the medical health care unit, in the same way as the trial group had been educated.

#### **Five tools used in this study**

1. Patient records: sex, age, cancer stage, drug formula, side effects, anti-vomiting drug use
2. Fatigue assessment: created by Piper et al (1998)
3. Mini nutritional assessment (MNA)
4. The veterans specific activity questionnaires (VSAQ) is a method for determining the efficiency in highest oxygen use created by Myers, Do, Herbert, Ribisl, and Froelicher (1994)
5. Beck depression inventory

#### **Statistical analysis**

Descriptive statistics, statistical tests, Chi-squared, Fisher's exact test, independent t-test and Mann-Whitney U-test where appropriate. Statistical significance was set at  $p < 0.05$ , using SPSS for Windows software, version 17.0 (SPSS Inc., Chicago, Illinois, USA).

#### **Results**

The mean, minimum, and maximum age of the sixty participants in this study was 56.10, 45, and 65 years respectively and 68.8% were male. Over 83% of the patients were referred from areas outside Bangkok. The most common characteristic was pain (11.70%) and the second most common was insomnia (6.70%). The patients with fourth-stage cancer formed the majority (58.30%). The most-used chemotherapy formula was Paclitaxel + Carboplatin (73.30%). Drugs containing Carboplatin + Gemcitabine (20%) were the second most common formula. Peripheral neuropathy was the most common side effect found in patients (38.3%) and the second most-frequently-occurring one was fatigue (35.0%). There was no statistical difference in patient characteristics between two groups as shown in Table 1.

After completion of the study, the trial group showed a lower fatigue score compared to the control group ( $2.98 \pm 1.96$  and  $3.99 \pm 1.64$ , respectively,  $p = 0.036$ ), whereas the nutritional status score in the trial group was higher compared

to the control group ( $p = 0.002$ ). There was no significant difference in any other characteristics between the two groups, including body weight, albumin, physical fitness, and depression as shown in Table 2.

**Table 1.** Demographic characteristics of all 60 patients in study

Characteristics	Total (n = 60)	Control (n = 30)	Treatment (n = 30)	p-value
Mean age (year) $\pm$ SD				
Mean $\pm$ SD	56.1 $\pm$ 5.62	57.37 $\pm$ 4.96	54.83 $\pm$ 6.02	0.081
Min-max	45-65	46-65	45-65	
Sex, n (%)				0.580
Male	41	22 (73.3)	19 (63.3)	
Female	19	8 (26.7)	11 (36.7)	
Referring system				
Referred from up country	50	25 (83.3)	25 (83.3)	1.000
No referring	10	5 (16.7)	4 (13.8)	
Underlying diseases				
DM	2 (3.33)	1 (3.3)	2 (6.7)	1.000F
HT	2 (3.33)	0 (0)	3 (6.7)	0.237F
Pain	7 (11.67)	5 (16.7)	2 (6.7)	0.424F
Sleep disturbance	4 (6.67)	1 (3.3)	3 (10.0)	0.612F
Stage of disease				1.000
Stage 3	25 (41.67)	13 (43.3)	12 (40.0)	
Stage 4	35 (58.33)	17 (56.7)	18 (60.0)	
Chemotherapy formulas				1.000
Paclitaxel + Carboplatin	44 (73.33)	22 (73.3)	22 (73.3)	
Carboplatin + Gemcitabine	12 (20.00)	6 (20.0)	6 (20.0)	
Etoposide + Carboplatin	4 (6.67)	2 (6.7)	2 (6.7)	
Side effects				
Nausea/vomiting	2 (3.33)	0 (0)	2 (9.5)	0.492F
Peripheral neuropathy	23 (38.33)	12 (46.2)	11 (52.4)	0.791
Fatigue	21 (35.00)	14 (53.8)	7 (33.3)	0.058
Tinnitus	1 (1.67)	0 (0)	1 (4.8)	1.000F

Values are represented as means  $\pm$  SD, n (%)

F = Fisher's exact test; DM = diabetes mellitus; HT = hypertension

**Table 2.** A comparison of means and, standard deviations, in fatigue, body weight, albumin, nutrition, physical fitness, and depression between patients in the control (normal care) and the trial group (multidisciplinary education program in self-care)

Characteristics	Control (n = 30)	Treatment (n = 30)	t	p-value
Fatigue	3.99 $\pm$ 1.64	2.98 $\pm$ 1.96	2.15	0.036*
Body weight	-0.32 $\pm$ 3.30	0.97 $\pm$ 3.47	-1.47	0.073
Albumin	-0.09 $\pm$ 0.63	0.39 $\pm$ 0.55	-2.05	0.149
Nutritional status	-2.01 $\pm$ 5.55	2.53 $\pm$ 2.78	-4.01	0.002*
Physical fitness	0.23 $\pm$ 3.20	0.35 $\pm$ 1.04	-0.20	0.846
Depression	13.90 $\pm$ 11.21	10.50 $\pm$ 8.60	1.32	0.193

Values are represented as mean  $\pm$  SD

\* Significant at  $p < 0.05$

## Discussion

The present study showed that fatigue and nutritional status were significantly different ( $p < 0.05$ ) between the two groups, but there was no statistically significant difference in body weight, albumin, physical fitness, or depression. There are several possible explanations for this.

In the present study, although the cancer had spread throughout the body towards the last stage in most patients (58.30%), the fatigue score in the patients was determined at a low level (0.01-3.99) for both groups. These results are consistent with a previous study, which stated that there was no correlation between cancer stage and fatigue<sup>(20)</sup>. However, it conflicts with another study suggesting that rapidly-spreading cancers were associated with greater patient fatigue<sup>(21)</sup>. As a result of receiving intensive care from nutritionists and other medical health care professionals, patients in the trial group showed an increase in body weight (mean = 0.97 kg), in contrast with the control group where body weight decreased (mean = 0.32 kg). However, there was no statistically significant difference between the two groups. It should be noted that body weight was recorded after each chemotherapy session. In the control group, 11 patients had a weight gain of between 0.2 and 6.5 kilograms, 17 patients had a weight loss of between 0.6 and 4.3 kilograms, and two patients' weights stayed the same. In the trial group, 23 patients had a weight gain of between 0.5 and 7.5 kilograms, and seven patients had a weight loss of between one and 10 kilograms. The results imply that the trial group may have achieved better results from their health care strategy. In contrast, the weight loss in the trial group was higher than in the control group, so it is not possible clearly to state that the two groups were different in this area. In addition, the number of participants in this study may have been too small. Increased body weight is positively associated with fatigue<sup>(22)</sup> and results in lower fatigue scores after treatment.

The trial group showed a higher nutritional status score compared to the control group (2.53 and -2.01 respectively) with statistically significant differences ( $p < 0.05$ ). This may account for the lower fatigue score in these patients. One possible reason for the better outcome in the trial group is that the patients in this group received very good care and assessment by a nutritionist, which may explain their better nutritional status, which may in turn enable patients to recover more rapidly from disease. The risk of other complications that might occur during the

course of chemotherapy treatment might also be reduced. The mean albumin level in the control group was -0.09 mg/dl compared to 0.39 mg/dl in the trial group. Although there was no statistically significant difference between the two groups, there was a slight trend towards a difference. Higher increases in body weight coincided with greater levels of albumin in the trial group, and this implies that the body requires high-protein food in order to recover from chemotherapy. Good nutritional consumption may result in a reduction in the risk of fatigue. However, the present study's results are inconsistent with those of a previous study stating that there was no correlation between nutritional status and fatigue in patients with breast cancer<sup>(20)</sup>. The possible reasons for this anomaly could be that the participants in the previous study may have not been assessed in the same depth as the participants in the current research. Furthermore, different organs were involved.

There was no statistical difference in physical fitness between the control and trial groups (mean control group = 0.23 and mean trial group = 0.35,  $p < 0.05$ ). Physical fitness had no effect on fatigue levels, but there seemed to a higher fitness level in the trial group. The exercise activities in the trial group were aimed towards achieving better physical fitness and reducing fatigue. Less movement was associated with more fatigue in patients<sup>(23,24)</sup>. Therefore, a proper exercise regime suited to each individual should result in better performance of organ functions leading to less fatigue in patients. However, the present study's results conflict with a previous study that tried to correlate walking exercise with fatigue in patients with breast cancer<sup>(25,26)</sup>. One of the reasons for this is that most of the participants in the present study were in the last stage of cancer (58.30%) and had pathogenesis at their lung, which is the organ directly involved in exercise activities. Therefore, although exercise had no effect on fatigue levels in the trial group, it showed a trend towards reducing fatigue.

There was no statistically significant difference in depression between the two groups (mean control group = 13.90 and mean trial group = 10.50,  $p = 0.19$ ). Interestingly, low depression observed in patients was associated with less fatigue<sup>(27,28)</sup>. More importantly, the patients were happier and less worried after receiving training through the multidisciplinary education program in self-care from the different professionals in medical health care. Additionally, their relatives gave them good support. This helps patients to adapt and be ready to face future



events results in a less depressed state of mind. The present study did not find a statistically significant relationship between depression and fatigue. However, depression may be a predicting factor of fatigue in patients, and lower levels of depression may result in less fatigue<sup>(29)</sup>.

In summary, patients receiving chemotherapy who participated in the multidisciplinary education program in self-care showed a lower fatigue score compared with patients in the control group ( $p=0.036$ ). This program requires cooperation from professionals and medical health care specialists, including experts in nutrition, physical therapy, and depression in order to reduce the risk of patient fatigue.

### **Recommendation and application use**

The health care service should be systematically managed, especially for patients who have complicated symptoms and require special care. In order to respond to the patients' requirements, cooperation from specialists in medical health care is required in order to continue the assessment of the plan for patient care. Therefore, all facilities including location, environment, and tools should be well organized and available to the workers and to the patients' relatives in order to gather all the participants together to develop a higher quality of patient care.

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### **What is already known on this topic?**

There are two area of research that looked at the care of cancer patients receiving chemotherapy. The Factors Related to Self-Care Agency of People with Cancer Receiving Chemotherapy (2008) and The Comparison of Music Therapy with Progressive Muscle Relaxation plus Guided Imagery on Control of Side Effects of Chemotherapy Treatment for Elderly Breast Cancer Patients (2010).

### **What this study add?**

Literature review of fatigue in lung cancer was not found as evidenced by based practices to reduce fatigue, except in breast cancer patients managed by a nurse to reduce fatigue. This may be because the pathophysiology of disease is different in patients.

Therefore, it is required to plan for a multidisciplinary team in the care of such a patient. This is because the organs and progression of the disease may be at a late stage, affecting the patient's therapy. Therefore, the assessment with appropriate care by each professional to reduce fatigue in lung cancer patients is important.

The present study was focused on lung cancer and fatigue, which will be useful for the patients who are receiving chemotherapy.

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## ผลของโปรแกรมการให้ความรู้เพื่อดูแลตนเองแบบสหวิชาชีพต่อความเหนื่อยล้าในผู้ป่วยมะเร็งปอดที่ได้รับยาเคมีบำบัด

กชชุกร หว่างนุ่ม, รัญญลักษณ์ ธนโรจนวิช, ขวัญตา ชินวัฒนชัย, ลาวัณย์ แจ่มประเสริฐ, อรอมล มาลีหวล, วชิรา จันทพันธ์

ภูมิหลัง: มะเร็งปอดมีอัตราการตายสูงพบว่า ร้อยละ 90 จะเสียชีวิตภายใน 1-2 ปี จึงเป็นปัญหาเร่งด่วนที่ต้องการให้มีการดูแลรักษาอย่างได้ผล เนื่องจากปัจจุบันยังมีแนวโน้มการเกิดโรคเพิ่มขึ้น จึงจำเป็นต้องศึกษาเนื่องจากผู้ป่วยต้องใช้ชีวิตอยู่กับผลกระทบของโรคและการรักษาเป็นเวลานาน โดยพบอาการเหนื่อยล้ามากที่สุด ทำให้ส่งผลต่อการรักษาของแพทย์ทุกรอบของการให้ยาเคมีบำบัด จากการศึกษาพบการจัดการความเหนื่อยล้าจะทำได้ด้วยพยาบาลเพียงวิชาชีพเดียว จึงอาจทำให้ผู้ป่วยได้รับการแก้ไขปัญหาไม่ครอบคลุมตามสาเหตุที่แท้จริง และการบำบัดความเหนื่อยล้าจะทำได้เพียงบางส่วนเท่านั้น ไม่สามารถบรรเทาได้ตลอดแผนการรักษา และยังขาดความชัดเจนในการลดความเหนื่อยล้า จึงจำเป็นต้องได้รับการปรับปรุงรูปแบบการบริการให้ดีขึ้นกว่าเดิม เพื่อช่วยให้ผู้ป่วยมีชีวิตรอดนานขึ้น และมีชีวิตอยู่อย่างมีคุณภาพ

วัตถุประสงค์: เพื่อเปรียบเทียบความเหนื่อยล้าของผู้ป่วยมะเร็งปอดที่ได้รับยาเคมีบำบัด กลุ่มที่เข้าร่วมโปรแกรมการให้ความรู้เพื่อดูแลตนเองแบบสหวิชาชีพกับกลุ่มที่ได้รับการพยาบาลตามปกติ

วัสดุและวิธีการ: เป็นการศึกษาแบบ *randomized controlled trials* มีกลุ่มควบคุม และกลุ่มทดลอง กลุ่มละ 30 ราย ประชากรในการศึกษาคือ ผู้ป่วยมะเร็งปอดที่ได้รับการรักษาด้วยยาเคมีบำบัด มีอายุระหว่าง 45-65 ปี ที่หน่วยให้ยาเคมีบำบัด งานการพยาบาลผู้ป่วยนอก โรงพยาบาลราชวิถี กลุ่มควบคุมจะได้รับการพยาบาลตามปกติ ในขณะที่กลุ่มทดลองจะได้รับโปรแกรมการให้ความรู้เพื่อดูแลตนเองแบบสหวิชาชีพเป็นเวลา 9 สัปดาห์ หลังการทดลอง ทำการเปรียบเทียบคะแนนเฉลี่ยความเหนื่อยล้า ภาวะโภชนาการ ความสามารถทางร่างกาย และความซึมเศร้า โดยใช้สถิติ *Independent t-test* และ *Mann-Whitney U-test*

ผลการศึกษา: ผู้ป่วยที่เข้าศึกษาทั้งหมด 60 ราย มีอายุเฉลี่ย 56.10 ปี อายุต่ำสุด 45 ปี สูงสุด 65 ปี เป็นเพศชายมากที่สุด คิดเป็นร้อยละ 68.33 เมื่อเปรียบเทียบคุณลักษณะพื้นฐานส่วนบุคคล พบว่าทั้งสองกลุ่มไม่มีความแตกต่างกัน ด้านความเหนื่อยล้า ภายหลังการทดลอง ผู้ป่วยมีค่าคะแนนเฉลี่ยความเหนื่อยล้าเท่ากับ  $2.98 \pm 1.96$  และ  $3.99 \pm 1.64$  ซึ่งความแตกต่างดังกล่าว มีนัยสำคัญทางสถิติ  $p = 0.036$  ในขณะที่ด้านภาวะโภชนาการกลุ่มทดลองมีค่าคะแนนเฉลี่ยสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติโดยมีค่า  $p = 0.002$  ส่วนด้านอื่นๆ ได้แก่ น้ำหนักตัว ระดับ *albumin* ความสามารถทางร่างกาย และความซึมเศร้า ภายหลังการทดลอง ไม่พบความแตกต่างทางสถิติระหว่าง 2 กลุ่ม

สรุป: โปรแกรมการให้ความรู้เพื่อดูแลตนเองแบบสหวิชาชีพ สามารถลดความเหนื่อยล้าของผู้ป่วยมะเร็งปอดที่ได้รับยาเคมีบำบัดได้ จึงควรให้วิชาชีพอื่นที่มีความรู้เฉพาะทางเข้ามามีส่วนร่วมในทีมดูแลสุขภาพ จะทำให้ผู้ป่วยได้รับการประเมินวางแผนการดูแลสุขภาพได้ตรงกับปัญหาและความต้องการของผู้ป่วยอย่างครอบคลุมรอบด้านมากขึ้น จึงควรนำไปใช้เป็นแนวทางในการดูแลผู้ป่วยมะเร็งที่ได้รับยาเคมีบำบัด และผู้ป่วยกลุ่มอื่นๆ ที่มีปัญหาสุขภาพซับซ้อนในการดูแล

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