

Effects of a support group to self efficacy of breast cancer patients that receiving chemotherapy

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ABSTRACT

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Background: The self-efficacy to cope with breast cancer patients can improve their adaptive coping skills, well-being and quality of life.

Objective: This study aims to identify the effects of a support group to improve self-efficacy of breast cancer patients that receiving chemotherapy.

Methods: This study used a quasy-experimental design with non-equivalent control pre-test post-test design. As much as 76 patients with breast cancer were assigned into either an experimental group or a control group (38 person each). All of them were selected through a consecutive sampling method. In addition, it used an instrument of cancer behavior inventory version 2.

Results: Respondents who were supported by the support group had 1.4 times higher level of self-efficacy to cope with cancer than those who were not supported by a support group. No significant difference in the level of self-efficacy to cope with the cancer between the experimental group and the control group (RR 1.4 with 95% CI 1.0-1.8, $\alpha > 0.05$).

Conclusion: Supports provided by the support group had no effect on the level of self-efficacy to cope with the cancer.

Latar Belakang: Self efficacy dalam mengatasi kanker pada pasien kanker payudara dapat meningkatkan ketrampilan coping yang adaptif serta meningkatkan kesejahteraan dan kualitas hidup pasien.

Tujuan: Penelitian ini bertujuan melihat pengaruh dukungan support group terhadap self efficacy pada pasien kanker payudara yang mendapat kemoterapi.

Metode: Penelitian ini menggunakan metode eksperimen kuasi dengan non equivalent control pretest posttest design. Sebanyak 76 pasien kanker payudara dibagi menjadi kelompok intervensi dan kontrol (38 responden tiap kelompok). Pemilihan sampel dilakukan dengan metode consecutive sampling. Pengambilan data menggunakan instrumen cancer behavior inventory versi 2.

Hasil: Responden yang mendapat dukungan dari support group memiliki tingkat self efficacy 1,4 kali lebih tinggi dibanding yang tidak mendapat dukungan. Hasil uji statistik dengan chi square menunjukkan tidak ada perbedaan proporsi yang bermakna tingkat self efficacy dalam mengatasi kanker setelah intervensi antara kelompok eksperimen dan kelompok kontrol (RR 1,4 dengan 95% CI 1,0-1,8, $\alpha > 0.05$).

Kesimpulan: Dukungan yang diberikan oleh support group tidak berpengaruh terhadap tingkat self efficacy dalam mengatasi kanker.

INTRODUCTION

A neoplastic disease occurring when normal body cells in the breast turn into dangerous cells called breast cancer. It is the most common malignancy for women, where 99% of breast cancers affect women.¹ The breast cancer phenomena vary across the world, but the highest rates founded in developed Western countries and the low estrates have been found in women in Eastern countries.² Cancer is the sixth leading cause of death in Indonesia. Data from the Ministry of Health in 2012 stated that the prevalence of cancer had reached 4.3 per 1,000 people. According to statistics data in the Hospital Information System (HIS) in 2007, breast cancer was in the first rank (16.85%). The next was followed by cervical cancer (11.78%), intrahepatic bile and liver cancer (9.69%), leukaemia (7.42%), and non-Hodgkin's lymphoma (6.69%).³

The management of breast cancer is classified into local and systemic treatment. Surgery and radiation therapy are the local treatments, while systemic treatment consists of chemotherapy, hormonal therapy and immunotherapy.⁴ To some extents, patients who receive chemotherapy will experience both advantages and disadvantages. It's common side effects include bone marrow disorders, nausea, vomiting, mouth pain, mouth ulcers, hair loss, early menopause, fatigue, diarrhea, constipation and heart disease.¹

Furthermore, breast cancer patients receiving chemotherapy need a coping source to be able to adapt to the physical and psychological changes caused by the chemotherapy treatment.⁵ The patient's coping strategy are expected to be recognized by health care providers and the patient should be provide appropriate interventions that can be done physically, psychologically, socially and financially, as well associal and emotional support.⁶

One of the support source is a support group consisting of women experiencing breast cancer. Emotional support from the support group is the most essential form of support related to individual needs.⁷ Benefits support from support group include hearing stories of

other people's personal experiences, increasing health promotion behaviour, increasing level of compliance, better self-esteem, better quality of life, self efficacy, well-being, better coping with cancer, psychosocial adjustments, information about cancer and its treatment, better relationships with others, hopeful support and optimism about the future and reducing anxiety.⁸

Hope and social support from patient's family, friends and healthcare providers are very meaningful for the patients to help them face their illness and treatment, especially the chemotherapy.⁹ The healthcare providers and other sources of support can help the breast cancer patients receiving chemotherapy to be able to adapt to negative aspects of the cancer and the chemotherapy. In addition, the effects of the cancer and the chemotherapy can affect the quality of life and self-efficacy of the patients, therefore psychosocial interventions are required, especially social support.¹⁰

The cancer patients need supports throughout their cancer journey to adjust to their disease.¹⁰ The cancer patients with intervention of a support group shows a higher self-efficacy than groups without the intervention. A social support, coping style to overcome problems and optimism is a source of the efficacy that has a positive relationship with efficacy assessment. Moreover, the self-efficacy is one of factors that can influence optimism to recover in breast cancer patients.¹¹

The self-efficacy can affect feeling, thought, self-motivation and behavior. People with high efficacy will have good coping skills to deal with stressors such as cancer, while those with low efficacy will be difficult to deal with these stressors. The cancer patients who have higher efficacy will adjust themselves in a better way, enjoy a better quality of life and live longer than those without efficacy.¹¹ The self-efficacy is related to mood, adjustment of psychology, emotion and physic, social welfare, cognitive function, active coping, self-care behaviour and quality of life in several groups of cancer patients.¹²

The self-efficacy is influenced by several factors including age, physical function and support received.¹³ The self-efficacy can be influenced by four sources of information: the experience of individual success, observation of the experience of other people's success, verbal persuasion and physical and psychological/emotional conditions. The level of self-efficacy of every individuals can be influenced by these factors.

The research on cancer patients at Klinik Sehat Surabaya found that social support provided by patient's family had a significant relationship with the patient's self-efficacy. Psychosocial intervention in the form of support given to cancer patients can improve their self-efficacy and adaptation. The self-efficacy can be a benchmark for adaptation, optimism healing, and treatment for the breast cancer patients. If the breast cancer patients are empowered to achieve an increase in the self-efficacy, the patients' adaptation to cancer, hope of cancer recovery, emotional well-being, and quality of life will be improved by providing social support from their support groups.¹²

The technique of providing the support is often conducted through group discussions, peer education and video footage from members of the support group.¹⁴ The combination of group discussion and video recording from the support group, especially survivors of breast cancer patients, can also be used. The group discussion can be arranged by a meeting between the breast cancer patients and the breast cancer survivors. The survivors would share stories about their experience of cancer in order to become a survivor in this activity. The discussion of both the sufferers can also share experiences or discuss breast cancer related issues.⁷ A video footage played for the patients usually contained stories about the experience of breast cancer since diagnosed to become a breast cancer survivor. This video screening technique is used as a form of technological innovation and is culturally sensitive in order to provide support for the breast cancer patients.¹

METHODS

This research was conducted in the outpatient ward of Dharmais cancer hospital Jakarta on May 12 to June 7, 2014. The researchers proposed an ethical feasibility of the research at the Faculty of Nursing University of Indonesia and the Dharmais cancer hospital before conducting the research. This research was conducted after obtaining an ethical review approval from both places and after the patient signed an informed consent form.

This research used a quasi-experimental design, non-equivalent control pre-test post-test design with a consecutive sampling method. The respondents in this research were 76 patients consisting of an experimental group (38 patients) and a control group (38 patients). The chosen respondents were respondents by some criteria such as being diagnosed with breast cancer in stage I-III, receiving chemotherapy in the outpatient or polyclinic room and never having received support treatment previously by a support group.

Data collection was conducted by using questionnaire sheet A which containing information about demographic characteristics of patients and confounding variables. Additionally, the research instrument B was Cancer Behavior Inventory (CBI) 2nd version consisting of 33 questions to measure the self efficacy in dealing with the cancer. The assessment of the questions used a Likert scale from 1 to 9 (1 = absolutely not sure, 5 = sure, 9 = absolutely sure). Its reliability of test result had a cronbach's alpha value of 0.954 and validity of test results 29 of 33 questions were declared valid. The total score ranged from 29-261.

The experimental group was given the support treatment from the support group after the pre-test by filling in instrument B was CBI, mean while the control group was given a support treatment after the post-test by filling in instrument B was CBI. The method used to provide support treatment in the group supported was by showing videos of cancer survivor experiences and group discussions.

Independent variables of this research were patient characteristics and support treatment of the support group and dependent variable is the self-efficacy to cope with the cancer. The confounding variables in this study were physical conditions, family and healthcare professional social support, individual experiences of cancer and observations of people's experiences of cancer.

Data analysis

Univariate analysis was used to describe the characteristics of the variables. Bivariate analysis was used to measure the differences of level of the self-efficacy before and after the intervention. Chi Square statistical tests were applied to determine the differences level of self-

efficacy between the experimental group and the control group.

In addition, multivariate analysis was used to estimate the strength of contributions between the confounding variables and the dependent variable. The analysis was purposed to identify the most dominant confounding variables associated with the increased levels of the self-efficacy in dealing with breast cancer patients. The statistical test used was cox regression.

RESULTS

Table 1 shows the frequency distribution of the characteristics of the respondents in the experimental group and control group. This table also shows the frequency of the characteristics of confounding variables.

Table 1. Frequency distribution based on characteristics of breast cancer respondents

Characteristics	Experimental Group (n=38)		Control Group (n= 38)	
Age (year)				
< 21	0	0	0	0
21-35	7	18.4	3	7.9
>35	31	81.6	35	92.1
Parity				
Nullipara	3	7.9	6	15.8
Primipara	7	18.4	5	13.2
Multipara	28	73.7	27	71.0
Marital Status				
Married	36	94.7	35	92.1
Not married	2	5.3	3	7.9
Education level				
Basic	12	31.6	11	28.9
Middle	17	44.7	14	36.8
High	9	23.7	13	34.2
Income				
≤ Rp 2,109,400.00	12	31.6	12	31.6
≥ Rp 2,109,400.00	26	68.4	26	68.4
Occupation				
Working	7	18.4	14	36.9
Unemployed	31	81.6	24	63.2

Cancer Stage				
Stage I	2	5.3	5	13.2
Stage II	14	36.8	12	31.6
Stage III	22	57.9	21	55.3
Length of diagnosis				
< 1 year	19	50	18	47.4
1-3 year	14	36.8	14	36.8
>3 year	5	13.2	6	15.8
Chemotherapy series				
First- third	21	55.4	16	42.1
Fourth- sixth	17	44.7	22	57.9
Physical Condition				
Healthy	26	68.4	25	65.8
Unhealthy	12	31.6	13	34.2
Family support				
Yes	35	92.1	35	92.1
No	3	7.89	3	7.89
Healthcare workers support				
Yes	36	94.7	36	94.7
No	2	5.3	2	5.3
Individual experience of cancer				
Yes	3	7.9	6	1.8
No	35	92.1	32	84.2
Observation of people's experiences with cancer				
Yes	35	92.1	37	97.4
No	3	7.9	1	2.6

Table 2. Self-efficacy levels of respondents in dealing with breast cancer before intervention

Group	Self efficacy before intervention				RR	95% CI	p value
	High		Low				
	n	%	n	%			
Experimental	21	55.26	17	44.74	0.8	0.6-1.2	0.345
Control	26	68.42	12	31.58			

Table 2 show self efficacy levels in overcoming cancer before the intervention was given. It shows that the value of p (p-value) between the experimental group and the control group is 0.345 (> 0.05). Thus, the levels of self efficacy in dealing with the cancer between both the groups are the not significant.

Table 3 shows a significant change of self-efficacy levels in dealing with the cancer by support group. This table shows that giving support treatments for the patients supported did not affect the self efficacy levels to cope with the cancer.

Table 3. Changes of the self-efficacy level of respondents in dealing with breast cancer before and after the intervention

Group	Self-efficacy				RR	95% CI	p value
	High		Low				
	n	%	n	%			
Experimental							
After	30	78.9	8	21.1	1.4	1.0-2.0	0.051
Before	21	55.3	17	44.7			
Difference	9	23.6					
control							
After	22	57.9	16	42.1	0.8	0.6-1.2	0.476
Before	26	68.4	12	31.6			
Difference	4	10.5					

Table 4. Differences of self-efficacy level of respondents in dealing with breast cancer after the intervention

Group	Self efficacy after Intervention				RR	95% CI	p value
	High		Low				
	n	%	n	%			
Experimental	30	78.9	8	21.1	1.4	1.0-1.8	0.084
Control	22	57.9	16	42.1			

Table 5. Cox regression analysis of breast cancer patients after the intervention

Variable	RR	95% CI	P value
Support treatment of the support group	1.4	0.8-2.4	0.269

Table 4 shows no significant difference between the experimental and the control group in the self efficacy levels to overcome the cancer after the intervention was given.

Table 5 shows that respondents who were supported by the support group (i.e. the experimental group) had a high chance of self-efficacy in dealing with the cancer, which was 1.4 times higher than the chance of the respondents who did not get the support (i.e. the control group). The differences in the opportunities between the supported group (experimental group) and groups that did not receive the support (the control group) were not statistically significant (p value = 0.269; 95% CI: 0.8-2.4).

DISCUSSION

The results showed that there were no significant impacts of support given by the support group on changes in the self-efficacy to cope with cancer of breast cancer patients. Contrasting chances between the experimental group (supported group) and the control group indicated no significance. It may be mainly because most respondents acquired supports from family, health professionals, healthy physique or meet the requirement to receive chemotherapy. The respondents also had observed other's experiences to deal with the cancer, especially the control group. Hence, mostly the respondents had higher self-efficacy

to deal with the cancer, especially the control group.

Another factor contributing to the absence of the impact of the support on the self-efficacy is that the support delivered through displaying video and group discussion was held only once. The support that was provided only once had no significant effects on the self-efficacy of the breast cancer patients. The method of delivering the support by the support group was appropriate although it was not properly implemented, and it contributed to an indiscernible impact of the intervention to the changes of the self-efficacy of the patients to cope with the cancer.

Providing the one-time, it can refer to a study in America that involved 10 patients with breast cancer in their study. Their method was by displaying an interactive video program using a computer. The video incorporated stories from survivors of breast cancer and 12 different topics. The researcher explained how to use the program and let participants watch the video when they assisted the patients to answer all participant's questions. The duration provided to watch the video was 90 minutes. Participants expressed their opinion that survivors' stories were informative, interesting and very helpful.

A similar method was applied in a study on 40 survivors of breast cancer in Canada by providing a Survivorship Consult (SC). Its intervention was implemented through a one-hour reflective interview to draw a comprehensive conclusion of survivor's experiences, to assess particular needs, and to identify the next strategy in managing their cancer treatments. The respondents were asked to fill a questionnaire before the SC intervention as a baseline of self-efficacy levels, and after the intervention, to identify effects of SC on self-efficacy and evaluate the SC contents. The study indicated no significant improvements in the self-efficacy based on measurement using the Stanford Self efficacy Scale. However, there was a significant improvement in the self efficacy based on measurements using the CBI. The respondents participants commented that they liked all aspects of SC and recommended a longer duration of SC. Also, they asked to get

the SC immediately after being diagnosed with breast cancer.

However, a study were disagreed with the result. The study, conducted in Isfahan and involving 68 patients with breast cancer, aimed to evaluate effects of two different interventions on patient's quality of life. The author applied a peer support program in an intervention group and a regular education in a control group. Two meeting sessions in a month for three months was provided for the intervention group as the respondents could share their experiences of their diseases, their worries, and their hope. Topics of conversation in the session included how to cope with stress, anxiety, self-awareness and hope. The duration of each session was 90 minutes to 120 minutes. Meanwhile, education six times in three months for 90 minutes for each session was given to the control group. The result suggested a significant increase in the physical role, vitality, social function, emotional role, mental health and adherence in the intervention group rather than in the control group.

Another study contended the result above.¹¹ The study focused on emotional supports and information of patients with breast cancer. Its measurement was conducted twice, for two months after the diagnosis and five months following the first measurement. The second evaluation of the emotional support and information revealed a significant relationship between the self-efficacy and quality of life.

The next different study is a research in a rural area in California and involved 27 patients with breast cancer. He used a video and a journal book to assess effectiveness of the intervention in reducing stress and increasing emotional expression and self-efficacy to cope with cancer. The intervention was held foreign sessions by a support group, which was led by a social worker in the oncology field. The result revealed that participants felt comfortable by the video and the group facilitate information and emotional sharing. The post test results indicated that using the video was a very helpful service for patients in rural areas.

In addition, another study disagreeing with this study result is research in Japan that involved 1,039 patients with breast cancer. The study revealed that the group provided with online supports had greater advantage in expressing their emotions regarding the breast cancer. A group of patients who received face to face esupport had a greater advantage in emotional support and received more detailed information about the breast cancer. It was because the patients managed to establish closer relationships with other members of the supports group.

Furthermore, another study that used a different method of support is a study that evaluated impacts of providing treatment information through a cancer support group with electronic health (eHealth) on the emotional well-being of 177 patients with breast cancer. The support group "CHESS: Living with Breast Cancer" involved a text and bulletin column that provided an opportunity for users to share information and support anonymously. The group was controlled by facilitator who had been given training to ensure that discussion was supportive and that no harmful and non-accurate information was spread. The facilitator did not decide the type and quality of information conveyed by group members and did not lead the topic discussion. This study revealed that the expression and the information about the treatment had a significant effect on the higher emotional well-being of patients with greater self-efficacy about health.

In this study, the support in the intervention group was provided by playing a video and a one-time group discussion. The evaluation of the self-efficacy level of patients with breast cancer to cope with cancer was conducted for one to two weeks following the intervention. Furthermore, this study applied a quasi-experimental design which did not allow randomization in the sampling process.

Hospitals, as providers of cancer services, should establish a policy in nursing care that includes a support group in order to improve the quality of nursing care for patients with cancer,

so that the patients may have better self-efficacy to deal with their cancer. The support group is suggested for educational institutions to be included in the nursing curriculum. Longer terms of study and higher numbers of participants should be considered for further studies in order to identify if there has been a greater improvement in the patient's self-efficacy to cope with their cancer.

CONCLUSION

The support provided by the support group had no effect in improving the self-efficacy to cope with cancer. It was indicated by statistical analysis which revealed no significant difference in improvement of self-efficacy to cope with the cancer between the experimental group and the control group, however, this study revealed that patients who got the support had a 1.4 times higher level of self-efficacy than those who didn't. It showed that the support group can still be recommended for patients who are coping with cancer. A further study is expected to apply a different method of support from the support group in order to examine its effectiveness in the improvement of the patient's self-efficacy to cope with their cancer.

CONFLICT OF INTEREST

None of the authors have declared any conflict of interest.

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