

# Effectiveness of Peer Education on Self Efficacy, Commitment and Quality of Life on Breast Cancer Patients

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**Abstract**— Breast cancer was the most common cancer in women, mortality rate and morbidity continued to increase, cases of breast cancer found to be more severe and cause death. Peer education education could be used to improve the quality of life of breast cancer patients so that patients have the spirit to improve the health. The purpose of this study was to examine the effectiveness of peer education on self efficacy, commitment and quality of life in patients with breast cancer.

The design of this study was quasy experiment researched with pre and post control group design with a total of 36 respondents. The research was conducted at POSA RSUD Dr. Soetomo Surabaya was divided into 18 respondents for peer education group and 18 for control group. The sampling method used was simple random sampling. Independent variable in this study were peer education while the dependent variable in this study were self efficacy, commitment, and quality of life. Data were collected by questionnaire and analyzed by manova Results: The result of statistical test showed that there was influence of peer education on self efficacy ( $p = 0,006$ ), there was no influence between peer education to commitment ( $p = 0,072$ ), there was influence of peer education on quality of life ( $p = 0,001$ ). In general, peer education education affect the self efficacy, commitment and quality of life when done posttest with manova ( $p = 0,023$ ).

Breast cancer survivors experienced an increased in self efficacy and quality of life in both intervention groups. This was related to verbal persuasion where the individual got the influence or suggestion and belief that she was able to overcome the problem to be faced. Researchers were further advised to conduct similar research by adding family empowerment to better engage the family.

**Keywords**— efficacy of peer education, self-efficacy, commitment, quality of life

## I. INTRODUCTION

Breast cancer is the most prevalent cancer in woman [23] World Health Organization showed that 12 million people around the world had breast cancer and 7,6 million of them death. In Indonesia the prevalence of breast cancer increase about 100 patients from 100.000 people each year. The mortality rate is about 11,22% [26]. The data from Sistem Informasi Rumah Sakit (SIRS), 2007 showed that breast cancer is the most disease in inpatient ward in hospital (16,8%). Dharmais hospital noted that breast cancer became the most disease occur in 5 years late (32%). In Indonesia, the most prevalence of breast cancer happen in west java and east java.

Based on National Cancer Institute, physic and psychology condition of patients examined at the first diagnoses till the end of her life. Research by Heydarnejad,

This study evaluate 200 breast cancers' patients post chemotherapy, the data showed that 11% patients had a good quality of life, 66% in a immidiate and 23% others in a less QOL [12]. A research showed that breast cancer and colorectal cancer survivors had limited knowledge of their diagnosis and cancer treatment [10]. Although treatments have shown some survival rate success, their negative impacts on the quality of life are reported. Distress, anxiety and depression were found to be common among breast cancer patient's even years after the diagnosis of the disease and treatment.

One of the important factors that have been discussed in nursing studesis is self-efficacy. Self-efficacy is one of the main constructs of Social cognitive it means a confidence and ability of person to perform a particular behavior, self-efficacy is considered as a predictor of breast cancer management improvement and social, psychological and physical functioning. Moreover, there is evidence to suggest that self efficacy plays an important role in the adherence accepting and taking action in breast cancer patients. Self efficacy is widely used and effective concepts of Socio-cognitive Theory, which was first introduced by Albert Bandura. In this theory, cognitive processes have a important role in behavior. Defective cognitive processes leads to individual's false expectations of their effectiveness and these expectations and perceptions can lead to anxiety and avoiding challenging opportunities [3]. Self-efficacy, involves individual's trust and confidence of his ability of doing self care process optimally, so in this way a person achieves better results of quality of life.

A variety of interventions have been made to increase self efficacy and QOL of the breast cancers' patients, pne of the intervention that has been used is peer education. Peer education was rated as one of the effective ways to increase self efficacy and QOL in breast cancer cases.

Peer education is a process to motivate and welltraine people undertake the responsibility of organized or spoken educationton their peers.The process has been targeted to develop the knowledge, attitudes, beliefs and skills of people and their empowerment to take responsibility for protecting their health [17]. Peer education approach is of behavior change strategies. Peer is a person who belongs to the same social group that this social group can be the same in terms of age, sex, occupation, socioeconomic status or health status and other factors [8]. In peer education, peer and patient because of membership in a group, empathy and social identity will get higher and will lead to knowledge promotion. Peer education relation to a variety of activities including peer counselling, peer-led interventions, peer health promotion and peer leadership programmes. Peer

education usually refers to a participatory style of teaching and learning in which people of similar social status or group membership (peers) educate each other about specific topics [18]. Peer education can involve formal in classroom or community settings, but frequently takes place more informally in locations where target groups 'hang out', for example, in local drop in centres, on the street, at music festivals, or in a hospital.

Peer education programs have been used to promote various positive health behaviors such as smoking cessation and violence, substance abuse, and HIV/AIDS prevention. Since such programs seek to produce behavior change in a peer group by the help of a peer educator or facilitator [7], they may simultaneously empower the educator and the target group by creating a sense of collective action. In non hierarchical structure, the management structure of peer education comprises two distinct roles, i.e. peer educators and adult support workers. While the first group are the control the direction of the program, the second group (program facilitators) guide and support the peer educators throughout the process. Peer education programs require planning, identification and training of peer educators, and follow up evaluations. Peer education engage all five senses and can also improve the power of thinking and innovation on participants. In fact, the participants will take part in all stages of the program including planning, implementation, and evaluation (Noori Sistani M, 2010) The purpose of this study was to determine the effect of peer education in improving self efficacy and quality of life among breast cancers' patient.

## II. METHOD

This research was a quasi-experiment study using pre and post control group design. A total of 36 responden from POSA Dr. Soetomo hospital Surabaya divided into 2 groups for the treatment group and control group. The sampling method used was simple random sampling. The dependent variable was self-efficacy and quality of life. Peer education was the independent variable. Data were taken with questionnaire and analysed by paired t test with significance level 0.05. The research design used in this research is the type of quantitative research with Quasi experimental design, that is the research that gives treatment or intervention on the research subject then the effect of the treatment is measured and analyzed. The research templates used were pre-test and post-test with control group design. This design was used to compare the results of peer education interventions on breast cancer patients in the group measured before and after intervention. In the implementation of the research the treatment group was given a health education with cancer survivor as a peer educator, while the control group only followed the standard of hospital.

The study protocol was approved by the research ethics commission of the ethical committee Dr. Soetomo hospital Surabaya Indonesia with number 56/Panke.KKE/II/2018. Prior to the data collection the researcher gave the respondent information conducted by 2 enumerators with the qualification professional of nursing. The data collection procedure is done in 3 stages: pre test, intervention and post test. Before the questionnaire was given, each respondent was given informed consent about the research. In the pre test stage.

## III. RESULT

### A. Patients' Demographic

General characteristics of patients based on demographic data presented consist of education level, work, age and long treatment. The population in this study are breast cancer patients in POSA Dr. Soetomo hospital Surabaya. Based of the result of the respondent demography, most of the participant education level is senior high school 8 respondents (44.4%) on treatment group, and control group elementary school 6 (33.3%). Most of respondents is not working, housewife 13 (72.2%) on treatment group, 11 (61.1%) on control group. In age, most of respondent more than 35 years old 16 (88.9%) on both of group. In long treatment characteristic, both of group is in 1-5 years long of treatments 11 (61.1%) and 10 (55.6 %). Test Statistics output in peer education to self efficacy showed that Asymp.Sig. (2-tailed) is worth 0,006. Since the 0.006 value is less than  $<0.05$ , it can be concluded that "Ha is accepted". This means that there is effect peer education on self efficacy. and control group since the 0,792 value is less than  $<0,05$ , it can be concluded that there is difference before and after observation.

Test Statistics output, it is known Asymp.Sig. (2-tailed) is worth 0,001. Since the 0.001 value is less than  $<0.05$ , it can be concluded that "Ha is accepted". This means that there is effect of peer education on quality of life. and control group since the 0,000 value, is  $<0,05$ , it can be concluded that there is difference before and after observation.

## IV. DISCUSSION

Based on the result, the difference of self-efficacy level of treatment group on pretest and posttest through paired t test showed p value  $<0.05$ , Varaci's (2017) study of peer education interventions on self-efficacy in patients undergoing CABG surgery showed that peer education was effective in patients undergoing CABG surgery ( $p < 0.001$ ). Peer education with the right method can improve the patient's self efficacy to convince themselves that they are not alone and remain them in the treatment. Peer education is an educational method that can meet the verbal elements of persuasion to be able to improve self efficacy. Increased self-efficacy can also occur because of increased positive motives and patient beliefs over their abilities. In addition, peer education can also provide support with fellow patients, so they can exchange experiences with cancer survivors [19]. Self-efficacy is a important tool for nurses in health centers and assessment of patients' self efficacy by nurses and its promotion can increase patient motivation to be involved in quality of life. It seems promoting behaviors in breast cancer patients could lead to improved quality of life and decrease their times of hospitalization. Thus, it can be expected that symptoms can be prevented [10]. Perceived self efficacy in these patients, indirectly through motivation and on the other hand by affecting expectations of the physical activity outcome, can be useful in starting and sustaining the physical activity behavior in these patients.

In the peer education group, all respondents experienced an increase in self-efficacy score on pretest and posttest results with an increased score range of 14 to 30 points. Peer education is an effort to provide information with the help of cancer survivor as a transmitter of material. This is based on the Health Promotion Model theory. The Health Promotion

Model theories suggest that personal factors such as age, education, income, and motivation can influence education through peer education that will contribute to self efficacy [2]. The results showed that most of the peer education group respondents had high school education while the majority control group had elementary education. The level of education can affect self efficacy in a person's ability to assess or evaluate the actions he or she has taken (Sudhir, 2013). Self efficacy can be influenced by several factors, one of that is the verbal factor persuasion that the individual gets the influence or suggestion that she is able to overcome the problems to be faced. The focus of peer education is to influence motivation, overcome obstacles, limit the disability of the patient, influence the patient not to limit himself, produce solutions, support, build self efficacy and involve patients in making decisions. Kuncaraningrat stated that the higher the level of education of a person, the easier it is to receive information so that more knowledge is possessed.

Persuasion verbal factor is a factor whose nature comes from outside the individual self. Verbal persuasion can be given by influential people to patients such as families and experts in the field to be trained as in this study is cancer survivor so that patients will be more confident about the material delivered. The form of social persuasion can be both verbal and nonverbal in the form of praise, motivation and others. In this study the patient was given material about breast cancer and motivation and support to fight against breast cancer and always eagerly positive. The Health Promotion Model theory explains that self-efficacy influences action barriers, where high efficacy will reduce perceptions of barriers to implementing targeted behavior. The existence of self-efficacy will be seen in the process of behavior change, including cognitive, motivational, affective and selective processes. Self-efficacy can affect a person's cognitive processes because in realizing goals, human behavior is always regulated in previous thoughts [2].

The results showed there is influence of peer education of quality of life on breast cancer patients. Peer education shows a contribution to improving the quality of life. Research from Melanie [6] which shows all participants have a positive experience on the role of peer educator. It found positive influence of participants in quality of life, health behavior, utilization of healthy centre. Quality of life is influenced by several factors such as gender, age, marital status, education level, occupation and income. The respondent characteristic data showed that majority of respondents were over 35 years old in both groups. Age differences in cancer patients have an impact on quality of life. This is caused by different views of the disease suffered. Young cancer patients, more easily afraid and lose the future. This leads to differences in the quality of life between patients of different ages.

Research by Heydarnejad [12], evaluate 200 breast cancers' patients post chemotherapy, the data showed that 11% patients had a good quality of life, 66% in a immediate and 23% others in a less QOL. A study showed that breast and colorectal cancer survivors had limited knowledge on the details of their diagnosis and cancer treatment [1]. In this case the role of nurse is important in primary, secondary and tertiary prevention to avoid complication. At the level of primary care nurse can implement health education intervention, one of them is peer education.

Peer education is a process of communication, information and education carried out by and for the same age group, namely one group, in this case the group of fellow breast cancer sufferers. The majority of respondents were > 35 years old with a history of treatment for 1-5 years. At the age and length of treatment the respondents had a lot of experience and often filled out similar questionnaires from other researchers. Experience is a source of knowledge or a way to obtain the truth of knowledge. Therefore personal experience can be used as an effort to gain knowledge by repeating the experience gained in solving problems faced in the past. breast cancer patient need a forum that is responsive to their physical, psychosocial, spiritual and information [9]. Therefore, peer education can be attributed to the recognition of the breast cancer need. The peer education group member underscored that the groups were roted in the essential experiential, linguistic, spiritual.

Peer support is important for the breast cancer patient during the treatment, postdiagnostic, emotional, and informational. Therefore, member felt they were in a comfort zone by being able to relate to other members with similar condition. A study identified that breast cancer support group members benefited from the therapeutic and were able to articulate their breast cancer journey by allowed an acceptance and strength in their goals. Therefore, their experience, support and practices are revealed in decreasing emotional and they have given permission to share their cancer journey [4]. The other study found the mean score of knowledge regarding breast self-examination to increase in students who receive peer education about breast cancer prevention through the learning of self-examination [28]. Peer education has also been successfully used to treat alcohol and substance abuse disorders [25]. Finally, some researchers believe that although school-based behavioral interventions which teach sexual health skills can improve the youth's levels of knowledge and self-efficacy, they may not have great impacts on sexual behaviour. Lieberman's study results [13] showed that the peer education program lead to an improvement in the social-psychological functions in women diagnosed with breast cancer.

## V. CONCLUSION

Peer education effectively improves self-efficacy and quality of life on breast cancer patients Respondents are advised to always conduct a positive mind to get self efficacy and increase the quality of life. Nurses and hospitals can reapply educational methods involving cancer survivors as a material handler and empowerment education to improve patient self-reliance Researchers are further suggested to conduct research related to involving families such as family empowerment.

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