

Health Education to Overcome Side Effects of Chemotherapy in Cancer Patients

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Abstract

Cancer is a chronic disease that requires treatment for a long time and is a priority cause of death in developing countries. One of the cancer treatments is chemotherapy, which can cause several side effects that often occur, including nausea, vomiting, and fever. Side effects that are not handled properly will reduce the quality of life for patients and their families. This community service aims to increase patient, family, and community knowledge about overcoming the side effects of chemotherapy in cancer patients. The method used in this community service is health education through webinars targeting cancer patients, their families, and the community. Participants who took part in this health education program were 50 participants. The activity begins with a pre-test, followed by the delivery of material and questions and answers. To find out the effectiveness of health education on the knowledge of webinar participants about how to deal with the side effects of subsequent chemotherapy, post-tests were carried out. After health education, there was an increase in knowledge; namely, before education, most participants (52%) had sufficient knowledge, with an average score of 59.35, and after health education, most participants (76%) had good knowledge, with an average score of 84. Ways to deal with the side effects of chemotherapy include distraction, relaxation, hypnosis, acupuncture, and acupressure therapeutic massages. During the health education, it appeared that the participants were very enthusiastic about participating in this activity, as evidenced by the many questions from the participants and an increase in knowledge. The results of this health education are expected to not only increase the participants' knowledge but also be applied to cancer patients who experience side effects after chemotherapy.

Keywords: chemotherapy, health education, side effects.

INTRODUCTION

Cancer is an abnormal cell growth that is continuous, not deactivated, can change shape, and can metastasize to other organs due to errors in the cell swelling system (Risnah, 2020). Cancer is a chronic disease that requires treatment for a long time and is the main cause of death in developing countries (Howell et al., 2021). The incidence of cancer in the world in 2020 will reach 19.2 million cases (Sung et al., 2021). The incidence of cancer in Indonesia in 2020 reached 396,914 cases with a mortality rate of 234,511 cases; the highest cancer in women was breast cancer (65,858 cases) and lung cancer in men (Kementerian Kesehatan RI, 2022).

During the process of disease occurrence and healing in cancer clients, physical and psychological changes occur both directly and indirectly, which can reduce the patient's quality of life (Prastiwi, 2013). Limited lifestyle and other adverse effects can occur for both patients and their families (Otto et al., 2021). To improve the quality of life of patients and their families, prompt and appropriate treatment is required. The classification of cancer treatment can be divided into local therapies, namely: surgery and radiotherapy; and systemic treatments, namely chemotherapy and targeted therapy (Miller et al., 2022). The current cancer treatments are surgery, radiotherapy, chemotherapy, and targeted therapy. Chemotherapy is a way of treating cancer using cytostatic drugs that can inhibit the growth or kill cancer cells (Shinta & Surarso, 2016).

Cancer patients who get chemotherapy will have an impact on their physical, psychological, social, and spiritual selves. Treatment of cancer patients has an impact on

their physical, psychological, social, and spiritual well-being (Cipriano-Steffens et al., 2020). Side effects on the physical aspects that can occur in the treatment of cancer patients include fatigue, pain, nausea and vomiting, cognitive changes, reduced physical strength, gastrointestinal problems, nervous disorders, and changes in sexual activity (Anita R. Peoples, Eva Culakova, Charles E. Heckler, 2019). Nausea, vomiting, and fever are among the most common side effects of chemotherapy. Nausea is an uncomfortable sensation that is felt in the throat and epigastrium and can cause stomach contents to come out. Vomiting is the discharge of stomach contents through the mouth, caused by a motor reflex. Fever is a natural process of the body to fight infections that enter the body when the temperature rises above the normal body temperature, which is 38°C. These side effects began to appear shortly after the first dose of chemotherapy drugs was given. The side effects of nausea, vomiting, and fever can reduce the patient's quality of life so that they experience difficulty carrying out daily activities (Indrayanti et al., 2022).

Interventions that can be done to reduce the side effects of chemotherapy include nausea and vomiting, including pharmacological and non-pharmacological actions. Pharmacological interventions consist of the administration of serotonin antagonists, central nervous system depressants, antihistamines, and antiemetics. Non-pharmacological interventions with complementary therapies have been widely used, including the techniques of distraction, relaxation, hypnosis, acupuncture, and acupressure therapeutic massage (Chen et al., 2021). Non-pharmacological interventions are easy to study, cost-effective, and have minimal side effects; they can reduce the frequency and dosage of drugs to overcome side effects when used together with pharmacology (Anita R. Peoples, Eva Culakova, Charles E. Heckler, 2019).

Nurses must consider the various problems of side effects and find effective strategies to reduce the suffering of cancer patients. There are several ways to reduce the side effects of chemotherapy, including nausea and vomiting. First by giving anti-emetic drugs. Second, in addition to the anti-vomiting drugs, herbal supplements are also recommended. The third option for post-chemotherapy nausea and vomiting is acupuncture. Finally, the biopsychosocial behavioral therapy includes progressive muscle relaxation (PMR), guided imagery, hypnosis, and exercises. Meanwhile, fever can be overcome by administering prophylaxis such as antibiotics and granulocyte colony stimulating factor (GCSF). However, the use of antibiotics has the potential to cause bacterial resistance and side effects. Giving GCSF is more often used to reduce the risk of neutropenic fever (Maria Syelvrida Tumina, 2021). In addition, nurses, patients, and families must also know how to deal with the side effects of chemotherapy in cancer patients; therefore, socialization and education are needed on how to deal with side effects after chemotherapy to be carried out effectively and efficiently. The purpose of this community service is to increase patient, family, and community knowledge about overcoming the side effects of chemotherapy in cancer patients.

METHOD

This community service is carried out online through webinars. The medium used is Zoom meetings. The activity was held on June 16, 2022, targeting parents who have children with cancer and the general public. This community service activity was attended by 50 participants. The methods used were health education and discussion. This health education activity begins with a pre-test, followed by the delivery of material and questions and answers for 45 minutes. To find out the effectiveness of educational activities on the knowledge of webinar participants about how to deal with the side effects of chemotherapy, do the post-test. The participants were very enthusiastic about participating in health education activities, as evidenced by the many questions. The stages of community service activities on how to overcome the side effects of chemotherapy consisting of planning, implementation, and evaluation can be seen in Figure 1.

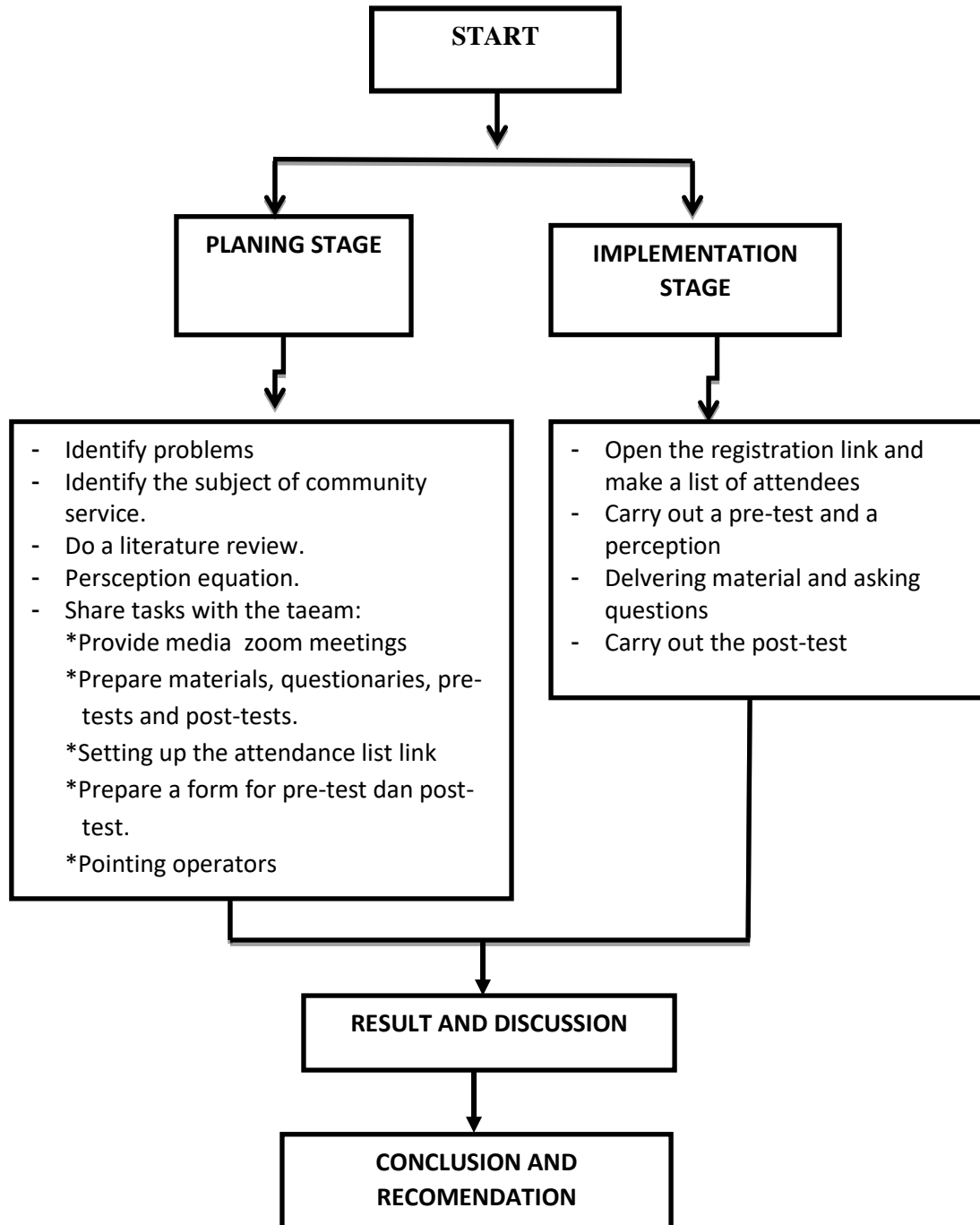


Figure 1. The stages of Community service activities

Planning Stage

Preparations for this community service activity have been carried out since early May 2022, including: communicating with team members to identify problems with post-chemotherapy side effects; Assessing subjects who will be the target of education about the side effects of chemotherapy and how to deal with them Conduct a literature review and discussion among group members about the side effects of chemotherapy and efforts to overcome them. Share tasks with the team: provides media zoom meetings. Prepare materials, pre-test and post-test, and set up a list of attendees. Prepare for pre-test and post-test. defines operators, determines the host and guest speakers.

Implementation Stage

The implementation of this community service activity was carried out with on-going education through webinars, including:

- Opening the registration link three days before the webinar is held, which is planned via WhatsApp, Instagram, and Facebook groups,
- On Day 1, a dress rehearsal was carried out to check all human resources and infrastructure to prevent technical and non-technical problems during implementation.
- Education was carried out on June 16, 2022, which began with the opening of a link to fill in the attendance list. After the opening ceremony, a pre-test and a perception of the participants were carried out, followed by the provision of material and questions and answers, which lasted 1 hour.
- To test the effects of education on participants knowledge about the side effects of chemotherapy and how to deal with them, a post-test is then carried out.

RESULTS

Community service activities are carried out on Thursday, June 16, 2022, from 10 a.m. to 12 p.m. under the title "Health Education: Overcoming Side Effects of Chemotherapy in Cancer Patients." Community service activities are carried out on Thursday, June 16, 2022, from 10 a.m. to 12 p.m. under the title "Health Education: Overcoming Side Effects of Chemotherapy in Cancer Patients." The event was attended by 50 participants, consisting of cancer patients, their families, and the general public.

This activity is carried out online through the Zoom Meeting application, with the presentation of material using PowerPoint. The implementation of health education ran smoothly from start to finish. The preparation was carried out by three team members online, using the Line Group and Zoom Meeting platforms, and they experienced no significant problems. All team members publish through various social media platforms. During the activity, the participants were quite enthusiastic, as evidenced by the many questions they asked.

The material presented included how to deal with the chemotherapy side effects, including the administration of drugs for neutropenic fever, music therapy, acupuncture, yoga, pressurization, foot massage therapy, administration of anti-nausea, eucalyptus, and things that should be done while undergoing chemotherapy (Maria Syelvrida Tumina, 2021).

Health education has been evaluated using Google Forms, and the activeness of the participants during the session question and the answer showed that the participants understood the material presented, so they wanted to know more about the material presented. The results of health education can be seen in Table 1.

Table 1. Knowledge of participants before and after health education (n = 50)

Knowledge level	Pre-test		Post-test	
	Frekuensi (f)	Prosentase (%)	Frekuensi (f)	Prosentase (%)
Good	19	38	38	76
Enaugh	26	52	11	22
Not enaugh	5	10	1	2
Total	50	100	50	100

Table 1 shows that almost half (46.6%) of the participants' knowledge before education was in the good category, and most (70.7%) after education was in the good category.

Table 2. Difference test results Average Knowledge of Webinar Participants About Overcoming Side Effects of Chemotherapy in Cancer Patients (N = 50)

Knowledge level	Min	Max	Median	Mean	P Value
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Before Educaton	35	70	48	59	
After Education	58	100	80	84	0.000

Table 3 shows the average knowledge of respondents before education (70.78) and after education (78.45), and there is an effect of education on participants' knowledge about stunting prevention after education (P value 0.05).

DISCUSSION

Health education activities regarding the side effects of chemotherapy expect to improve the quality of life of cancer patients who are undergoing chemotherapy or who have not yet undergone chemotherapy. Patients are afraid of the side effects that exist, and they tend to refuse or be uncooperative in the implementation of chemotherapy. Side effects that occur after chemotherapy—nausea, vomiting, and fever—can reduce the quality of life of patients and their families.

The effect of health education about the side effects of chemotherapy on cancer patients attended by 50 participants can increase the participants' knowledge. That is in line with research by Waluya et al., (2019), which explains that there is a significant influence on the knowledge and attitudes of cancer survivors after being given proper education and support. According to Notoatmodjo (2014). education is all planned efforts to influence other people—individuals, groups, or communities—to do what is expected of educational actors. Therefore, this study proves that providing education to participants can increase their knowledge.

The results of this study are also in line with the previous study, which showed that there were significant differences in the knowledge and attitudes of gymnastics participants before and after participating in the GEMA CERMAT education program with a significant p-value of 0.05, but that these differences need to be maintained and improved by doing continuing education. (Simanjuntak & Tupen, 2020), explain that public health services through health promotion can help increase knowledge and attitudes.

This research is in line with the opinion (Arunachalam et al., 2021), that knowledge of the side effects of chemotherapy is positively related to self-care practices and managing side effects to improve quality of life. A high level of knowledge about the side effects of chemotherapy will improve the quality of self-care. ' Chemotherapy patients will experience some side effects that can be burdensome for them and their families. Therefore, overcoming the side effects of chemotherapy requires good knowledge about the effects of chemotherapy and how to deal with them (Marianthi et al., 2023).

One's knowledge of an object contains positive and negative aspects (Fitriani, 2019). Knowledge needs to be maintained and increased by carrying out health education about the side effects of chemotherapy and how to deal with them in a structured and sustainable manner for patients and their families, not only by individuals but also by institutions, so that they act as sources of information and providers of health care facilities (Eriyani et al., 2022).

CONCLUSIONS AND RECOMMENDATIONS

Chemotherapy is a cancer treatment that enters the bloodstream and affects cancer cells and other cells, causing side effects that can interfere with the patient's quality of life. The side effects of chemotherapy in cancer patients can affect biological, physical, psychological, social, and spiritual aspects so that they can reduce the quality of life of patients and their families. The most common side effects of chemotherapy are nausea, vomiting, and fever. Good knowledge is needed to deal with the side effects of chemotherapy.

After conducting health counseling about the side effects of chemotherapy in cancer patients, there was an increase in knowledge both at the level and on average. There was an effect of health education on participants' knowledge (p-value 0.05). It was hoped that the

webinar participants would increase their knowledge, which can be applied to overcoming the side effects of chemotherapy in cancer patients

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