

Knowledge of Overcoming Chemotherapy Side Effects on Breast Cancer Patients: The Impact of Audio-Visual Media

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Abstrak

Kanker payudara merupakan jenis kanker dengan insiden dan penyebab kematian tertinggi pada wanita di Indonesia. Data dari Tahun 2020 menunjukkan terdapat sekitar 42,1 per 100.000 wanita yang menderita kanker payudara. Salah satu terapi yang efektif dalam penatalaksanaan kanker adalah kemoterapi. Kurangnya pengetahuan tentang cara mengatasi efek samping kemoterapi dapat mengurangi tingkat kepatuhan pasien dalam melakukan pengobatan kemoterapi. Media audiovisual merupakan salah satu media promosi kesehatan yang dapat digunakan untuk menyebarkan pengetahuan tentang cara mengelola efek samping kemoterapi. Penelitian ini memiliki tujuan untuk mengetahui pengaruh media audio visual terhadap pengetahuan mengatasi efek samping kemoterapi pada pasien kanker payudara di RSUD Cut Meutia Aceh Utara. Penelitian ini memakai metode *quasi eksperimen* dengan rancangan *one group pretest-posttest design* serta melibatkan 66 pasien kanker payudara yang sedang melakukan kemoterapi di RSUD Cut Meutia Aceh Utara. Instrument penelitian yang digunakan berupa lembar kuesioner tentang pengetahuan mengatasi efek samping kemoterapi. Hasil penelitian didapatkan tingkat pengetahuan pasien kanker payudara sebelum dilakukan promosi kesehatan pada kategori baik sebanyak 41 orang (62,2%) dan setelah dilakukan promosi kesehatan pada kategori baik sebanyak 66 orang (100%). Penggunaan media audio visual memiliki pengaruh terhadap pengetahuan berdasarkan uji *Wilcoxon*. Kesimpulan dari penelitian ini adalah terdapat pengaruh media audio visual sebagai media pembelajaran meningkatkan pengetahuan mengatasi efek samping kemoterapi pada pasien kanker payudara di RSUD Cut Meutia Aceh Utara.

Kata Kunci : kanker payudara; kemoterapi; media audio visual; pengetahuan

Abstract

Breast cancer is the most common type of cancer in women and the leading cause of death in Indonesia. According to 2020 data, there are approximately 42.1 breast cancer cases per 100.000 women. Chemotherapy is one of the most effective treatments for cancer. A lack of knowledge about how to deal with chemotherapy side effects can impair patient compliance with chemotherapy treatment. One of health promotion media that can be utilized to share knowledge about how to control the side effects of chemotherapy is audiovisual media. The purpose of this study is to investigate influence of audio-visual media on knowledge in overcoming chemotherapy side effects in breast cancer patients at Cut Meutia General Hospital, North Aceh. This study employed a quasi-experimental methodology with a one-group pretest-posttest design and included 66 breast cancer patients receiving chemotherapy at Cut Meutia General Hospital in North Aceh. A questionnaire about knowledge in combating chemotherapy side effects was utilized as the research instrument. The research findings were the level of knowledge of breast cancer patients before health promotion, which was in the good category for 41 people (62.2%), and after health promotion, which was in the good category for 66 individuals (100%). Based on the Wilcoxon test, the usage of audio-visual media has an effect on knowledge. The study's findings indicate that using audio-visual media as a learning tool will help breast cancer patients at Cut Meutia General Hospital, North Aceh and gain more knowledge about how to deal with the side effects of chemotherapy.

Keywords: breast cancer; chemotherapy; audio-visual media; knowledge

Introduction

Cancer is an abnormal cell development that can grow and spread to different body organs. The ductal epithelium or its lobules are two potential sources of breast cancer. This condition, a non-contagious disease, develops when genes that control cell growth and differentiation are damaged, leading to uncontrolled cell development. Breast cancer is the most typical type of cancer that affects women worldwide (1).

Breast cancer is the leading cause of new cancer diagnoses, with 2.2 million people worldwide, according to data from the 2020 Global Cancer Observatory (GCO). In 2018, there was a rise in the number of cases, with around 2.1 million new cases of breast cancer documented. Breast cancer ranks second (1.7 million, 11.9%) after lung cancer (1.8 million, 13%) in terms of all diagnosed cancer cases, making it the top cause of mortality for women worldwide (2). According to Aceh Provincial Health Office data from 2018, the prevalence of breast cancer in Banda Aceh City was reported to be 127,465 cases. According to medical data from Cut Meutia General Hospital in North Aceh District, there are a total of 964 cases of breast cancer from 2020 to 2021 (3).

Chemotherapy is a cancer treatment strategy that employs chemicals or anti-cancer medications known as cytostatics. Cytostatics can stop or destroy malignant cells at any point in their development, whether at the onset of the disease or elsewhere (4). Chemotherapy not only targets malignant tissue but can also harm healthy cells in the body, resulting in a variety of adverse effects. The adverse effects of chemotherapy will range based on the medicine utilized. As a result, breast cancer patients require information and support in order to cope with these side effects (5).

The information provided by doctors and nurses in the oncology polyclinic is merely standard education (oral education), and the whole picture can be received from a variety of different information sources. Health promotion seeks to build community capacity through self-directed learning from and for the community. One technique of health promotion is to provide health education, which is done to increase one's knowledge and capacity to live a healthy lifestyle (6). The selection of the appropriate medium is one of the factors that can influence the outcome of the health promotion that will be carried out. Audio-visual media is a means for communicating information or material in both visual (picture) and auditory (sound) modes. This demonstrates that audio-visual media, which integrates the use of the senses of hearing and sight so that the audience can understand it more easily, is a health promotion medium with multiple benefits (7).

According to the explanation above, breast cancer remains a medical concern in Indonesia, particularly in the Aceh Region. Treatment for breast cancer, such as chemotherapy, can have a variety of harmful side effects for patients, thus it is critical to share knowledge about how to manage chemotherapy symptoms through health promotion. Because information is an essential factor in self-motivation, patients should be well-versed in the subject of chemotherapy. It is natural for someone to be highly motivated to undertake chemotherapy and to prepare for the potential adverse effects of chemotherapy that may occur. Therefore, researchers are interested in conducting research on the impact of visual and audio media on knowledge in overcoming the side effects of chemotherapy in breast cancer patients at Cut Meutia General Hospital, North Aceh.

Method

The research design used in this type of study is a one-group pre-test post-test quasi-experiment. One group of individuals is used in the one-group pre-test and post-test design in research to identify causal links. The subject group was observed before the intervention and then again after the intervention. 148 breast cancer outpatients who received chemotherapy at the Cut Meutia General Hospital between January and August 2022 made up the study's population. The sample was selected using the purposive sampling method and a total of 66 breast cancer patients who received treatment in the Chemotherapy Room of the Cut Meutia General Hospital became the sample of the current study. The key data collected came from questionnaires about patient awareness about how to deal with chemotherapy side effects. The research was conducted at RSU Cut Meutia's Chemotherapy Room in North Aceh. The research period lasted from February to March 2023. Data analysis techniques used include univariate and bivariate analysis.

Research result

The purpose of this study is to determine the impact of audio-visual media on patient understanding of chemotherapy side effects in breast cancer patients. The variables in this study were described using univariate and bivariate analysis, which was done descriptively. The major data was collected by having the research sample fill out a questionnaire. The collected data will be displayed in the form of a frequency distribution table. The Wilcoxon test was employed to measure the differences between before and after the intervention in this

study's analysis of the two variables. If the P value is less than 0.05, the results of this study are considered significant.

a. Characteristics of Breast Cancer Patients

The characteristics of the study participants, including their age, occupation, education, stage of breast cancer, chemotherapy regimen, and side effects, were described in light of the research findings. The following table will precisely display the data:

Table 1. Patient Characteristics Based on Age, Occupation, Last Education, Stage, Chemotherapy Regimen, and Side Effects.

Characteristics	Frequency (n=66)	Percentage (%)
Age (years)		
Early adulthood (26-35 years)	1	1,5
Late adulthood (36-45 years)	13	19,6
Early elderly (46-55 years)	33	50
Late elderly (56-65 years)	19	28,7
Work		
Unemployed	56	84,8
Employed	10	15,1
Last education		
Low education	34	51,5
higher education	32	48,4
Breast Cancer Stage		
Stage 1	7	10,6
Stage 2	14	21,2
Stage 3	22	33,3
Stage 4	23	34,8
Chemotherapy regimen		
Platinum-Based	25	37,8
Anthracycline-Based	41	62,1
Chemotherapy Cycle		
Cycle 1	6	9
Cycle 2	15	22,7
Cycle 3	15	22,7
Cycle 4	10	15,1
Cycle 5	10	15,1
Cycle 6	10	15,1
Side effects		
Yes	60	90,9
No	6	9

Source: Primary Data, 2023

According to Table 1, of the 66 total participants in the study, 33 people (50.0%) were in the early elderly age group (46–55 years), which had the highest age distribution. According to occupation, 56 participants in the study (84.8%) were found to be unemployed. According to their most recent education, 34 respondents (51.5%) had a poor education,

which made up the majority of respondents. The group of respondents with stage 4 breast cancer, consisting of 23 people (34.8%), had the highest distribution of responders. According to chemotherapy regimens, the majority of respondents—41 persons, or 62.1%—had regimens based on anthracyclines. Based on chemotherapy cycles, the biggest distribution of responses (22.7%) was in groups of 15 people each in cycles 2 and 3. In terms of side effects, the majority of responders (90.9%) reported experiencing them.

b. Pre-Test Results for Breast Cancer Patients

The result of this pre-test is the sum of the scores acquired by respondents after answering the questionnaire questions prior to the intervention with audio-visual media.

Table 2. Frequency Distribution of Respondents' awareness during the Pre-Test

Category	Awareness (Pre-Test)	
	Frequency (n)	Percentage (%)
Less	2	3
Enough	23	34,8
Good	41	62,2
Total	66	100

Source: Primary Data, 2023

According to Table 2, there were 41 breast cancer patients (62.2%) who had a high level of comprehension prior to commencing treatment, compared to just 2 (3.0%) who had a low level of understanding.

c. Post-Test Results of Breast Cancer Patients

The findings of this post-test are the scores achieved by respondents after answering the questionnaire's questions after receiving intervention via audio-visual media.

Table 3. Frequency Distribution of Respondents' Awareness during the Post-Test

Category	Awareness (Post-Test)	
	Frequency (n)	Percentage (%)
Less	0	0
Enough	0	0
Good	66	100
Total	66	100

Source: Primary Data, 2023

According to table 3 above, breast cancer patients with the good level of understanding following intervention fall into the good category with 66 respondents (100.0%), while those with the enough understanding fall into the sufficient category with 0 (0.0%) and less categories with 0 (0.0%).

d. Understanding Analysis of Breast Cancer Patients Before and After Intervention

Table 4. Wilcoxon Test of Understanding of Breast Cancer Patients Before and After Intervention.

Knowledge	Category Level						Frequency	p value
	Less		Enough		Good			
	n	%	n	%	n	%		
<i>Pre-test</i>	2	3	23	34,8	41	62,1	66	0.000
<i>Post-test</i>	0	0	0	0	66	100	66	

Source: Primary Data, 2023

Based on Table 4 above, the analytical findings reveal that, after receiving an intervention in the form of audio-visual media at RSU Cut Meutia, North Aceh, breast cancer patients were able to understand and overcome the side effects of chemotherapy. This is evident from a P value of 0.000 or P 0.05, which demonstrates that patients' levels of understanding before and after discovering how to combat the side effects of chemotherapy differ.

Discussion

1. Description of Respondent Characteristics

The research findings revealed that the early elderly age group, aged 46-55 years, had the biggest number of responders, with 33 people (50.0%). The likelihood of acquiring breast cancer rises with age. This association is assumed to be generated by the influence of long-term exposure to hormones (estrogen) and other risk factors that cause cancer over time. In this study, the majority of respondents, as many as 56 persons (84.8%), did not work. Working women have greater access to a wider range of knowledge, owing to both the media and their coworkers.

According to the findings of researchers, while conducting research, numerous breast cancer patients choose to cease working after being diagnosed with the disease. This is due to physical changes in patients who have been weakened by cancer therapy. The majority of the participants in this study, 34 people (51.5%), had a low level of education. Women with a higher degree of education are more alert to indications and seek quick medical attention at a hospital so that they can receive breast cancer therapy sooner. The stage 4 group had the highest percentage of participants (34.8%), with 23 people. This study also demonstrates that the majority of breast cancer patients are in advanced stages (3 and 4). This occurs because most breast cancer patients present to the hospital for assessment at an advanced stage because they are experiencing more severe symptoms than at an earlier stage.

As many as 41 individuals (62.1%) got chemotherapy regimens based on anthracyclines. The conventional form of anthracycline chemotherapy that is administered to

breast cancer patients is the one with the lowest rate of side effects in comparison to other forms of chemotherapy. The groups for the second and third cycles each had 15 participants, which equaled a participation rate of 22.7%. Each patient experiences side effects at a different rate since they worsen with each treatment cycle. Therefore, the patient experiences increased symptoms and side effects as the number of chemotherapy cycles increases (16). Up to 60 participants (90.9%) reported experiencing chemotherapeutic adverse effects. Halim (2016) asserts that chemotherapy for cancer patients typically results in adverse effects (17).

2. Results *Pre-Test* Knowledge of Overcoming the Side Effects of Chemotherapy

The outcomes of testing the level of knowledge of breast cancer patients prior to receiving an intervention in the form of exhibiting audio-visual material linked to how to deal with chemotherapy side effects. According to Table 2, there are 66 samples in the good category (62.2%), 23 samples in the sufficient category (34.8%), and 2 samples in the less category (3.0%). The results of this pre-test revealed that the majority of the participants had a high level of comprehension prior to receiving the intervention in the form of an audio-visual media display.

According to the findings, the majority of respondents had a general understanding of the importance of chemotherapy. However, some respondents lacked knowledge about how to manage chemotherapy symptoms. Education on this issue has a significant impact on the information and opinions of women with breast cancer regarding chemotherapy treatment. Budiman and Agus Riyanto (2013) contend that education can transform a person's attitude, allowing him to observe something and choose if it is good or bad. Education can alter a person's behavior, and the more information he has, the more likely it is that his attitude and knowledge will advance (8). Adi Rizka, et al. (2023) reported in one of their studies that there was a link between chemotherapy adherence and the amount of information available. This demonstrates that information is essential for respondents to adjust to chemotherapy treatment and that having access to appropriate information will raise respondents' awareness of the need to adhere to all recommended therapies, including chemotherapy (9).

The idea put forward by Middleton, J., and Lennan, E. (2011) contends that information, educators, techniques, resources, and media can all have an impact on a patient's lack of knowledge, unfavorable attitudes, and lack of abilities (10). The majority of respondents who stated that their doctors had informed them of the potential side effects of chemotherapy treatment also shared this sentiment. However, they felt that they had not received comprehensive information or training from doctors or other healthcare professionals

on how to manage these side effects, preventing them from performing self-care to the fullest extent. One of the factors influencing patients' limited awareness in this study is a lack of information on how to overcome the side effects of chemotherapy through counseling in print and electronic media. As a result, an effective strategy for raising awareness of breast cancer patients undergoing chemotherapy is required.

3. Post-Test Results on Knowledge of Overcoming the Side Effects of Chemotherapy

Following the intervention using audio-visual media, it was discovered that there was an increase in breast cancer patients' understanding of how to deal with chemotherapy side effects, with the highest percentage being in a good category with 66 responses (100%). This gain in knowledge is due to the respondents' desire and interest in paying attention to the video's content when it is broadcast. A very significant impact was made on the knowledge of breast cancer patients by the increase in knowledge both before and after the health promotion media were exhibited. Breast cancer patients can quickly obtain information about how to deal with the adverse effects of chemotherapy as a result of health promotion via audio-visual media.

The findings of this study are consistent with Dermawan and Setiawati's educational theory, which claims that education is a learning process from ignorance of the value of health to knowledge and from being unable to manage one's own health to becoming autonomous. This is also consistent with the findings of Hidayati, et al (2012), who came to the conclusion that knowledge of breast cancer is often lower before and after counseling sessions (12).

4. Effect of Audio-Visual Media on Knowledge of Overcoming Side Effects of Chemotherapy

The P value of 0,000 obtained from the Wilcoxon test analysis of the pre and post-tests used to measure the influence of audio-visual media in this study was less than 0.05. This describes how audio-visual media influences breast cancer patients' understanding of overcoming chemotherapy side effects. This study found that the degree of knowledge before and after watching educational videos differed significantly. Patients prefer video intervention because it is more engaging, integrating sights and sounds to convey complicated material in a short amount of time. This is congruent with the findings of a study conducted on chemotherapy patients by Pendet et al. (2019), which looked at how educational motion

pictures improve patient awareness about the severity and management of chemotherapy side effects (13).

Chemotherapy is one of the most commonly prescribed methods of cancer treatment, with the goal of enhancing the patient's quality of life or prolonging the patient's life expectancy. Giving chemotherapy might result in unexpected drug-related issues, one of which is the drug's negative effects. While there is no way to totally remove the danger of drug side effects, there are things you can do to lessen chemotherapy's adverse effects. Cancer patients frequently suffer anxiety as a result of a lack of understanding regarding the treatments required to improve their health (14). Contrarily, patients find it difficult to obtain proper information on chemotherapy. Health professionals are crucial in spreading knowledge about chemotherapy, procedures, and potential adverse effects. Lower levels of anxiety are associated with having access to sufficient information for chemotherapy patients.

Knowledge must be kept and expanded. Hospitals can accomplish this by conducting planned and continuous health education efforts to boost patient and family understanding. Furthermore, educational institutions must increase the provision of health education that is not only general in nature but also focuses on how to overcome problems or side effects of an action in order to become a source of information and health service facilities (15).

Following the intervention, all respondents had an acceptable level of understanding. The prepared audio-visual media can effectively transmit information and assist respondents in learning more about how to deal with chemotherapy side effects.

Conclusions and recommendations

Conclusion

1. The age of the respondents was found mostly in the early elderly age group (46-55 years) (50.0%), the majority of respondents did not work (84.8%), the majority of respondents had low education (51.5%), the stage of cancer of the respondents was the most in the stage 4 group (34.8%), the majority of respondents received anthracycline-based chemotherapy regimens (62.1%), the most chemotherapy cycles of respondents were in cycles 2 and 3 groups (22.7%), and the majority of respondents felt the effects side of chemotherapy (90.9%).
2. Breast cancer patients have an excellent degree of awareness about how to deal with the adverse effects of chemotherapy before engaging in health promotion through audio-visual media, 62.2%.
3. Breast cancer patients' understanding of how to combat the side effects of chemotherapy

after health promotion via audio-visual media is excellent, with 100.0%.

4. The use of audio-visual media can help spread awareness on how to help breast cancer patients deal with the side effects of chemotherapy.

Recommendations

1. Patients with breast cancer should become more knowledgeable about how to manage the negative effects of chemotherapy.
2. To promote patient health, hospitals should be able to deploy health promotion initiatives involving audio-visual media that address the side effects of chemotherapy and possible solutions.
3. It is believed that this research will serve as a resource, a source of reference information, and a basis for comparison for upcoming scholars.

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