Effect Of Health Education With Audio-Visual Media On Adherence To Medication Of Breast Cancer Patients

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ABSTRACT

Introduction: Breast cancer is known as the first killer of cancer. Long-term treatment is more prone to patient compliance problems, lack of understanding of the pain, and saturation of taking medication leads to non-adherence that worsens the patient's condition. This study analyzes the impact of the health education with audiovisual media on drug adherence in breast cancer patients

Method: A quasi-experimental study with the design of pre-post test group design of control. Purposive sampling carried out for 1 month (September 2023) at the Oncology poly of Petrokimia Gresik Hospital. Subjects who met the inclusion of 36 patients were evaluated with the MMAS (Morinsky Medication Adherence Scale) questionnaire. Analyzed using the Paired T Test correlation test.

Results: Using the Paired T-test and Independent T-Test test obtained (count) = 0.000 so that α< 0.05 there is a The influence of health education using audio-visual media on medication adherence in breast cancer patients.

Conclusion: Adherence to taking medication in breast cancer respondents has a significant influence after being provided with health education about breast cancer via audio-visual media.

1. INTRODUCTION

Compliance is a level of patient behavior in undergoing treatment, whether they are compliant or whether they want to undergo treatment recommended by the doctor to achieve the stated goal (Syamsuddin, S., Tahir, M. Y., & Plasay, 2020). The series of treatments makes patients feel bored, causing patient non-compliance in undergoing treatment and having an impact on the healing process that takes a long time (Permata, 2020). Lack of understanding of the dangers of illness, fear, lack of motivation and support or looking for other alternatives in treatment can make the problems faced worse. This has a big impact on breast cancer patients in their efforts to maintain their health condition (Dwi Lestari, 2020). Breast cancer can develop into late or advanced stages. In these retrieved stages, the occurrence of cancer laceration wounds is about 5-10% in breast cancer patients (Setiawan et al., 2021). Based on the urgent need to improve patient compliance with treatment. Breast cancer requires a strict drug regimen, but many patients have difficulty adhering to their medication schedule due to lack of understanding and motivation. Audiovisual media offers an interesting and easy to remember educational method, which can explain the importance of medication and how to use it effectively, thereby hopefully improving patient compliance and treatment outcomes.

Disobedient behavior in everyday life everyday life is common. However, non-compliant behavior. However, non-compliant behavior in the health sphere is very dangerous. Moreover, disobedience in following the instructions of following the doctor's instructions in following the therapy, can lead to a number of undesirable consequences such as: illness pain lasts longer or the medical condition worsens, the patient needs hospitalization or home care or the extreme or the extreme result of death (Edi, 2020). Patient adherence to recommendations and treatments from healthcare providers is critical to the success of an intervention. Non-compliance is a major problem especially in patients who are about to undergo chemotherapy and can impact on different aspects of the care of the patient, hemotherapy and may impact various aspects of patient care (Wulandari et al., 2022a).

There are complaints that during treatment, many breast cancer patients become afraid and do not comply with treatment so that patients come in at a higher stage or experience a recurrence, one of which is while taking medication. Patients with advanced stages undergo hormonal therapy regularly and over a long period of time, namely for 5 years. This causes boredom for sufferers and their families, so that non-compliance often occurs in undergoing the prescribed hormonal therapy program (Febrianti, R. H., & Ratnasari, 2022). It requires deep obedience undergo treatment to avoid disease progression and recurrence (Wulandari et al., 2022b).

Data from the Global Cancer Observatory (Globocon), breast cancer occurs in 185 countries and is the cancer with the highest incidence in 107 countries in the world, and the 3 countries with the highest cases of breast cancer in 2021 are China, USA and India. The incidence of breast cancer accounted for 11.7% of the 19.2 million cases, namely 2,261,419 people of all ages (Nasution, W. M., Asfriyati, A., & Siregar, 2018). On the other hand, breast cancer incidence rate in Indonesia is 65,858 (16.6%) cases, which is 11th in the world, 4th in Asia, while in Southeast Asia it is 1st. Breast cancer has the highest incidence in women, at 30 .8% per 100,000 population and a mortality rate of 20.4%, namely 22,430 cases (Komalasari, Y., Fitri, A. E. R., Aziza, K. N., Rahmayanti, V. L., & Fithri, 2023). The Indonesian Ministry of Health in 2020 revealed that there was increase in breast cancer cases in Indonesia. The data recorded the incidence rate of human breast cancer in Indonesia is 26 per 100.000 of population then in 2018 results riskesdas research noted that breast cancer incidence was 42.1 per 100,000 people. From these results, it can be seen that there is a significant increase in cases of of breast cancer which is quite significant (Reny Hari Febrianty, 2022). Data released by the East Java Provincial Health Service in 2020 saw the number of breast cancer sufferers reach 12,186 cases with a total of 86,000 and breast cancer patients were ranked first in terms of cancer. Not Even compliance rate of cancer patients taking

medications, at one of the center of oncology in a hospital in Semarang is low. With irregular irregularity of patients in the consumption of drugs, would cause the disease to be more progressive and result in a bigger pressure on the general health budget which is progressive in nature and results in a greater burden on the health budget. A solution required be found to resolve this problem (Riani et al., 2023). In 2019, according to the national scale, the Gresik District Health Service had 28,910 breast cancer patients, 1,521 of whom came from Gresik, East Java. Cancer of the breast is the number-one killer disease for women in Indonesia. The number of deaths due to more than 22,000 cases of breast cancer death with a percentage of 16.6% out of 68,858 cases. Percentage of cases amounting to 16.6% of 68,858 cases. One the causes of the high breast cancer occurrence rate in female is due to lack of early health care education (Apriani et al., 2023).

In previous research on patient adherence to cancer treatment showed 76.3% were compliant with treatment. Non-compliance came from younger women <40 years old, drinkers, smokers, and those diagnosed with incurable. Adherence was found in women with middle and college educated, and women with a family history cancer (Hassen F, Enquselassie F, Ali A, Addissie A, Taye G, Assefa M, 2022). Efforts that can be made to overcome non-compliance include providing health education to patients so they understand the importance of compliance in the hope of changing a person's knowledge and behavior. Health education is a strategy to persuade or educate the general public to encourage them to take action that will improve health and welfare (Dewi, K. R., Sukaesih, N. S., & Lindayani, 2023). Health education is provided to convey information and be easily accepted along with the development of the digital era, so using video is an alternative choice because the visual effect provides an interesting picture. (Supriatna, R. F., Martini, N., Susanti, A. I., Handayani, D. S., & Nirmala, 2020) stated that there has been an increase in knowledge of young women pre and post being provided with health education e-magazines (p = 0.009) and there was an influence of emagazines on the knowledge of young women (r = 0.276). (Kurniati, 2018) result of the test - post test measurements retrieved increase in compliance with medical treatment by 61.6%. These results show that Health Education can improve Compliance with medical treatment in patients with breast cancer symptoms at PKU Islamic Hospital.

2. METHODS

Study Design
This method used quasi-experimental research with a control group pre-post test design.

Population, Samples, and Sampling
The population in the research is breast cancer patients who met criteria, totaling 60 patients. The sample size was 36 stage 3 breast cancer patients without metastases it is divided into 18 respondent at

treatment group who received counseling and 18 of the respondent in the control group who did not receive counseling treatment. The sample collection technique used non-probability sampling with sampling by purposive sampling technique. Inclusion criterion: 1) Patients aged > 18 years; 2) Patients who were conscious, cooperative and able to communicate fluently; 3) Patients who were willing to become respondents; 4) Patients who taken the oral chemotherapy drug Tamofen 1x20 mg/day; 5) Patients with stage 3 breast cancer without metastases; 6) Pre-menopausal patients. Exclusion Criteria: 1) Patients had intellectual or cognitive disorders; 2) The patient experiences vision and hearing problems.

Instruments

The instruments in the research used SAP, tablets, video media. Instruments for measuring compliance used MMAS-8. An observation method which is able to inform whether the observed behavior appears or not by checking the following check mark ($\sqrt{}$), is used when observing the post test to evaluate the expected results. Researchers used questionnaires and observations to monitor respondents' compliance. In carrying out the observation checklist, apart from being seen when returning for treatment, the researcher also provided direct assistance via video call when taking medication according to the specified time as proof that the respondent really took the medication regularly and according to instructions.

Procedure

Respondents was selected using the following inclusion and exclusion criteria then two groups were selected, namely the control group and the group treatment group, each group numbering 18. Samples were taken for 3 weeks in each group, namely:
Week 1: 6 respondents in the study group and 6 in control group;Week 2: 6 respondents in the treatment group and 6 of the study respondents in the controlled group; Week 3: 6 respondents in the treatment groups and 6 of participants in the controlled group. This study is grouped into three clusters because the patient controlled schedule was adjusted. that is, within one week the researchers could only get six patients from each group. Regarding the number of patient visits, the average one day is 10-15 patients with different cancer diagnoses. Respondents were placed in a special room after receiving health services. Respondents who are elderly or who need assistance are accompanied by researchers. Pre-test. Distribution of demographic data questionnaires and compliance questionnaires. The questionnaire is equipped with a respondent code column. Time to fill in demographic data and questionnaires is 6 minutes. Implementation of treatment groups. Group respondents were given counseling about the meaning, causes, signs and symptoms breast cancers, breasts cancer medical treatment, risk of side effects treatment of breast cancer, and the impacts that would arise if treatment stopped. Counseling is carried out using audio-visual media. The time for delivering the counseling is 6 minutes. Given once per visit. Provide the opportunity to ask questions/discuss for 8 minutes. Enter into contracts with respondents for upcoming meetings as scheduled. Implementation of the control group. Receiving standard interventions/examinations according to the SOP for outpatient services from health workers without being given health education interventions regarding breast cancer during the research process. Post-test, distribution of compliance questionnaires to determine the effectiveness of the counseling given to the treatment and control groups, was carried out when the respondents returned for treatment according to the specified schedule..

Data Analysis

After data is collected from respondents, data processing is carried out by: editing, coding, scoring, processing, cleaning, tabulating. All collected data is analyzed using the Paired T Test correlation test, with significance $\alpha < 0.05$.

Ethical Clearance

This research has received an ethical certificate approval from Health Research Ethics at Faculty of Public Health University of Jember Number No.537/KEPK/FKM-UNEJ/VII/2024.

3. RESULTS

Based on table 1 in the treatment groups, the majority of the results of the study showed that respondents aged 40-50 years were 17 (94.4%), had a high school education, 10 respondents (55.6%), were married, 17 respondents (94.4%), worked as housewives, 12 respondents (66.7%), 11 (61.1%) had suffered from cancer for 1-3 years, 17 (94.4%) had no family history of cancer, 16 respondents (88.9%) came from the Javanese tribe, and 11 used contraceptive pills (61.1%), the drug consumed was tamofen.

Based on table 1 in a collection of controlled groups, the results shows that most respondents aged 40-50 years were 16 (88.8%), had a high school education, 15 respondents (83.1%), all were married, worked as housewives, 15 respondents (83.3%), had suffered for a long time. 10 (55.5%) had cancer for >3 years, 14 (77.8%) had a family history of cancer, 18 (100%) of all respondents came from Javanese ethnicity, and 15 (83.3%) used contraceptive pills. the drug consumed was tamofen.

According to table 2, it can be seen that explained that in the treatment group before health education, there were 16 (88.9%) non-compliant categories, after being given health education, 17 (94.4%) respondents were in the compliant category, but there were respondents who were not compliant. In the control group, it was found that before provided health education in non-compliant existing categories

Table 1. Frequency Distribution of Respondent Characteristics

No	Category	Treatment		Control	
		n	%	n	%
1	**Age**				
	<40th	1	5.6	2	11.1
	40-50th	17	94.4	16	88.8
2	**Education**				
	Elementary School	2	11.1	2	11.1
	Junior High School	2	11.1	1	0.5
	Senior High School	10	55.6	15	83.1
	College	4	22.2	0	0
3	**Marital Status**				
	Marry	17	94.4	18	100
	Widow	1	5.6	0	0
4	**Work**				
	Housewife	12	66.7	15	83.3
	Teachers/PNS	4	22.2	1	0.5
	Farmer	1	5.6	2	11.1
	Private	1	5.6	0	0
5	**Long Suffering From Cancer**	6	33.3	3	16.7
	<1th	11	61.1	5	27.8
	1-3th	1	5.6	10	55.5
	>3th				
6	**Family History**				
	Yes	1	5.6	4	22.2
	No	17	94.4	14	77.8
7	**Ethnic Group**				
	Java	16	88.9	18	100
	Not Java	2	11.1	0	0
8	**Contraceptive**				
	History	11	61.1	15	83.3
	Pill	2	11.1	1	0.5
	Inject	4	22.2	2	11.1
	IUD	1	5.6	0	0
	Sterile				
9	**Consuming**				
	Medication Tamofen	18	100	18	100

16 (88.9%), after being provided with health education in non-compliant existing categories 14 (77.8%), but there were 4 respondents (22.2%) in the compliant category

4. DISCUSSION

The results of the Paired Sample Test showed that the calculation results were significant (αcount) = 0.000 so that α <0.05, which shows that there is a significantly different in medication adherence between pre and post health education about breast cancer with audio-visual media in treatment group at the hospital. Petrokimia Gresik. Results of research in compliance with the following theory put forward by Panjaitan (2019) that health education is an effort or activity to create community behavior that is conducive to health. This would mean that education in the field of health seeks to make people aware or know how to be healthy maintain their health, how to avoid or prevent things that are detrimental to their personal health and the well-being of others, where to go for treatment if they are sick and so on.

Many breast cancer patients choose not to undergo chemotherapy before surgery and choose to seek alternative treatment. Research shows (Lestari, A., Budiyarti, Y., & Ilmi, 2020) Cancer patients often experience psychological responses like rejection, anxiety, isolation, and acceptance, which can vary based on environmental and personal factors. Survivors may face the challenge of whether to continue treatment, with motivation and the desire to recover playing crucial roles, especially for those who adhere to treatment. Quick decision-making in treatment can improve outcomes, but long-term adherence is challenging due to potential boredom, which may slow recovery or worsen the condition. Family support is also vital, as patients with strong family backing are generally more compliant with chemotherapy. Research shows that cancer patients are often non-compliant with treatment for several reasons, including several reasons, including cost concerns, trying alternative treatments, and the inability to deal with side effects such as hair loss,

Table 2. Analysis of The Influence of Health Education on Medication Adherence

No	Medication Adherence	Treatment				Control			
		Pre Test		Post Test		Pre Test		Post Test	
		n	%	N	%	n	%	n	%
1	Obedient	2	11.1	17	94.4	2	11.1	4	22.2
2	Not Obey	16	88.9	1	5.6	16	88.9	14	77.8
	Mean	0.1111		0.9444		0.1111		0.2222	
	SD	0.32338		0.23570		0.32338		0.42779	
	Paired T-Test	0.000				0.163			

decreased endurance, mouth ulcers, nausea, nausea, and vomiting (Legawinarni, 2023).

Patient compliance in treatment can also known as the patient's degree of agreement with the medical advice given in carrying out the therapies, lifestyle, changes, and adhere to medical consultation schedules. The existence of ineffectiveness in this compliance can be caused by ineffective communication with health workers, high hospitalization / MRS patients, risk of death or recurrence, or compromised mental health impaired mental health (Lestari, A., Budiyarti, Y., & Ilmi, 2020).

Based on Table explaining the effect of medication adherence in the treatment group after receiving health education about breast cancer with the control group receiving standard SOP intervention, the results showed that almost all of the treatment group complied with 17 respondents (94.4%) and almost all of the control group did not comply as many as 14 respondents(77.8%). WHO defines compliance as "the extent to which a person's behavior conforms to the agreed recommendations of a health care provider." In this determination, the person is seen as an actively engaged partner in the therapy. Ensuring compliance during the course of long-term oral medications appears being an unmet medical challenge. Compliance with treatment recommendations, prescribed drugs, and medical cares have been studied in order to more than the last half-academic century. Expected more than 30% of what is being promised medications are not taken according to instructions. Studies of nonadherence are of particular interested because medications such as tamoxifen can be beneficial only when taken in suitable therapeutically doses. In addition, to promote compliance through intervention, the excuse not to -compliance (intentional or unintentional) must specified (Kurniati, 2018). Previous studies have shown that compliance with the results of tamoxifen are not optimized, which range from 53% to 86%. Research results from (Rolianna Harianja, Kemala Rita Wahidi, 2022) show that the mean values of education, family guidance, medication compliance and improved quality of life are high. There is an increase in education (p=0.000), family mentoring (p=0.001) and compliance to taking medication (p=0.000) to the risk of quality of life. Results measurement - post test there was an increase in compliance with medical treatment by 61.6%. Research from (Vyas, A., Descoteaux, A., Kogut, S., Parikh, M. A., Campbell, P. J., Green, A., & Westrich, 2022) suggests that overall, compliance with the OAM is not optimal, and for the some cancers, obedience is worse outcomes among patients with significantly higher OOP costs, the patients who were hospitalized,and patients receiving low-income Medicare subsidies. Policies that address OAM costs and access and health system strategy to address impediments to effective OAM use are required to improve patient access to these important medicines. The patient intentionally stops the medication or accidentally forgets to taking medication. It has been reported that several factors are associated with suboptimal compliance with tamoxifen treatment, such as patient-centered factors (patient confidence and knowledge about the risk of readmission) and therapy-centered factors (duration, side effects) as well as health care system factors (patient dissatisfaction with the health care provider). Bad adherence to long-term medications can contribute to both poor clinical outcomes and increases in healthcare expenditure, and thus should be prevented. The results of this study show that there was compliance in taking medication in the treatment group between pre- and post-health education program about breast cancer using audio-visual media at the Petrokimia Gresik Hospital, most of whom were compliant in comparison to the control group who did not accept the treatment, the vast majority of the whom were non-compliant. Breast cancer patients' quality of life can improve by giving education (Saputra et al., 2021).

Based on data collection and statistical tests using paired t tests in the two treatment and control groups, it can be explained again that, in the treatment group there was a significant difference in medication adherence before and after counseling about breast cancer using audio-visual media. Meanwhile, in the controlled group, no difference between the groups first data collection and the second data collection. This shows that there is a statistically significant effect of on medication adherence among being given health education about breast cancer using audio-visual media and not being given health education in breast cancer patients at the Petrokimia Gresik Hospital. Health education using audio-visual media via cellphones with the WhatsApp application is currently very familiar in various circle (Maisari, A., Fahreza, F., & Kristanti, 2019). The existence of health education interventions can also function to encourage breast cancer sufferers to self-regulate by finding the meaning of life so that their psychological condition is stable (Permanasari, 2017).

Managing one's life means that patients are expected to have the ability to change behavior to achieve life goals as well as the ability to control emotional situations, be able to manage the psychological impact and side effects of treatment, as well as the uncertainty they feel. Health education also encourages patients to develop interventions in self-management to improve psychological well-being due to the breast cancer they suffer from. Many factors influence breast cancer patient compliance in taking medication. These factors can influence directly or indirectly, including social, economic, health workers, environmental conditions, therapeutic problems, and the patient's own condition (Permanasari, 2017).

The results of this research which show the great influence of health education through audio-visual media cannot be separated from advances in science and technology today, especially information technology. Information technology support is very

vital to carry out this learning activity. In line with this, it turns out that all respondents in this study already had smartphones and adequate internet connections, so almost no technical problems were encountered (Safar et al., 2022).

The research results also showed that compliance observations with WhatsApp video calls for 14 days were fulfilled and received a good response. Nowadays educational media and methods are developing rapidly, including health education. With the development of smart cellphones (smartphones), it is possible for media and educational methods to reach the target more easily and quickly. As is the case with this research which focuses on health education for breast cancer sufferers through audio-visual media sent via smartphone. Learning materials can be delivered to clients without any time lag with material packaging that has been prepared in advance.

Furthermore, another benefit obtained from health education through audio visuals is that it also serves as a reminder to take medication. When clients or sufferers are busy or forgetful, maybe they don't even want to take medication, then WhatsApp media is a good alternative as a form of motivation to take medication. So that compliance with taking medication for breast cancer sufferers can be optimized. Research facts show that there is a tendency for breast cancer sufferers to be non-compliant in taking medication. This situation must be encouraged from various sides, including when health counseling or education is carried out, then at that time it is also necessary to remind and encourage people to take medication.

The importance of health education interventions for breast cancer sufferers is also because it is difficult for a sufferer to face cancer with various treatment and therapy processes, conditions that may be considered life-threatening, the uncertain course and prognosis of cancer and outlook on life in the future. The above situation is also a cause of uncertainty that is often felt by patients. This uncertainty will cause bad psychology if breast cancer sufferers are unable to take the right strategy to overcome it. The existence of an uncertainty response influences the patient's coping abilities and behavior. Adherence to nausea and vomiting medication is important to prevent nausea and vomiting in cancer patients vomiting in cancer patients. Based on previous research that less knowledge is more at risk of not being compliant with taking medication. One of the efforts in to improve medication adherence through education on the use of medication (Pengabdian & Jpfs, 2023).

Many opinions explain the adverse effects of excessive use of avoidant coping strategies which can result in subsequent negative psychological and physical problems in cancer patients. Adherence to treatment by breast cancer patients in undergoing therapy is motivated by the patient's desire to recover, be able to carry out daily life functions as usual, fight for the family, and even want to pursue

dreams that have not yet been realized. Thus, the function of health education in the form of counseling becomes important, including audio-visual media. Choosing the right media is one of the components that can affect the results of health education that will be carried out. Various various there are many types of media that can be used in providing health promotion. Health education media is a means that can be used to convey information about health that the community wants to convey so that it can increase information about health that the community wants to convey so that it can increase knowledge and change the behavior of people who initially have negative behavior into positive behavior so that the community can support the health of their family members who are sick. Media that can be used in conveying information about health can be in the form of print-based media, visual, and audiovisual (Marwiyah, 2020). The study results are not in accordance with the results of this study (Muharrarah et al., 2022) that found the age of respondents Most respondents were at an early age of 44.5%, 51.8% of respondents with high education level, 75.5% of respondents with marriage status and the fastest stage of breast cancer stage 3 is 50.9%, and the compliance rate of breast cancer patients is 80% compliant. The statistics test results p value = 0.091 which means there is no relationship between education level and treatment compliance in mammary cancer patients education with treatment compliance in mammary cancer patients at Dharmais Cancer Hospital.

In previous research on patient adherence to cancer treatment showed 76.3% were compliant with treatment. Non-compliance came from younger women <40 years old, drinkers, smokers, and those diagnosed with incurable. Adherence was found in women with middle and college education, and women with a history of cancer in the family (Ina Martiana, 2023). The results of the study obtained a p value = 0.017 the relationship between compliance with the quality of life of breast cancer patients at Dr. Moewardi Surakarta Hospital (Dewi, 2020). Non-compliance can also occur when individual or group conditions willing to comply, but there are a number of factors that inhibit compliance, one of which is the side effects in undergoing these programs. The impacts that occur can lead to increased rates of relapse rate after being at home, because the patient and the family are not yet able to carry out care independently. One of the programs treatment program that is often found non-compliance in running it (Prastiwi et al., 2022). Other factors affecting patient adherence were distance >100 km from the medical center, patients without a card, patients who are unemployed, and those with stage IV-A/B disease and advanced stage tumors, administration of Computer Controlled Radiation Therapy (CCRT) (Mazna, 2020).

5. CONCLUSION

In the control group before being given health education in the non-compliant category. after health education is given in the compliant category. The results showed that in the control group before and after being given health education in the non-compliant category. non-compliant category.

Through this research, it is hoped that hospitals/health agencies should create policies or SOPs related to health education on breast cancer using audio-visual media so that patients can comply with medication therapy. Nurses need to always educate and provide support or motivation in implementing services so that patients will feel more cared for. This is a good assessment of the services at the Oncology clinic and improves the quality of services provided.

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