

The Effect of Cognitive Behavior Therapy (Cbt) on the Level of Anxiety of Chemotherapy Patients of Colorectal Cancer Long Cycle

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Abstract. Colorectal cancer (CRC) is a malignant disease that is very heterogeneous, which is caused by the interaction between genetic factors and environmental factors. This disease is one of the malignancies with the highest prevalence and incidence in the world and an estimated 1.2 million people are diagnosed with CRC each year. The World Health Organization (WHO) estimates that there will be an increase of 77% new cases of CRC and 80% of deaths due to CRC in 2030. Colorectal cancer patients often experience psychological disorders, one of which is anxiety. At Awal Bros Hospital, especially in the Chemotherapy room, there were still many patients who still showed anxiety, especially in patients in the early phase of undergoing chemotherapy, according to data that researchers got in December 2020 there were 32 patients suffering from gastrointestinal cancer, and there were 28 patients who underwent adjuvant chemotherapy, and of the 28 people there were 20 people who still expressed anxiety during chemotherapy. This study aims to determine the effect of cognitive behavior therapy in reducing anxiety as an effort to optimize the mental function of colorectal cancer patients with chemotherapy. This study used a quasi experimental method without control, with a pre post test design approach. The study sample consisted of 20 people with colorectal cancer who underwent 12 cycles of long cycle chemotherapy. The anxiety instruments used were STAI form Z-1 and Z-2. The intervention was given in the form of CBT with the mind over mood method for 5 sessions. Based on quantitative measurements with the Wilcoxon Test, the p-value of 0.000 is smaller than <0.05 , it can be concluded that "H₀ is rejected", or in other words there is an effect of cognitive behavior therapy to reduce the anxiety level of colorectal cancer patients who are undergoing long cycle chemotherapy. It is recommended for the Awal Bros Hospital in Batam to provide special training for nurses who treat cancer and chemotherapy patients on how to approach and provide therapy for patients who experience anxiety so that patients can optimally undergo treatment.

Keywords: Cognitive Behavior Therapy, Anxiety, Colorectal Cancer Patients

1 Introduction

Colorectal cancer is a malignant tumor that arises from the epithelial tissue of the colon or rectum. Colorectal cancer refers to malignant tumors found in the colon and rectum. The colon and rectum are part of the large intestine in the digestive system which is also called the gastrointestinal tract. More specifically, the colon is in the proximal part of the large intestine and

rectum in the distal part about 5-7 cm above the anus. The colon and rectum function to produce energy for the body and get rid of useless substances. (Ii et al., 2013) (Sayuti & Nouva, 2019)

Colorectal cancer is a malignant tumor. Colorectal cancer (CRC) is a very heterogeneous malignant disease, which is caused by the interaction between genetic and environmental factors. This disease is one of the malignancies with the highest prevalence and incidence in all unia and it is estimated that as many as 1.2 million people are diagnosed with CRC each year. The World Health Organization (WHO) estimates that there will be an increase of 77% new cases of CRC and 80% of deaths due to CRC by 2030 (Sari et al., 2019).

CRC is the second most common malignancy in women (614 thousand cases / year) and the third most common cancer in men (746 thousand cases / year). The incidence and mortality of CRC increases with age. Approximately 90% of new cases and 93% of cases of death due to CRC occurred at the age > 50 years. (Sari et al., 2019)

The Global Cancer Observatory released 19,292,789 cancer cases in 2020, this figure increased from 2018 where the number of cases in that year was 18,078,957 with the percentage of cancer incidence in 2020 Lung Cancer (11.4%), Breast Cancer (11.7%), Abdomen cancer (5.6%), Prostate cancer (7.3%), Colorectum cancer (10%), other cancers (53.9%).

The Ministry of Health reports that the incidence of cancer in Indonesia (136.2 / 100,000 population) ranks 8th in Southeast Asia, while in Asia it is 23rd. The highest incidence rate in Indonesia for men is lung cancer, which is 19.4 per 100,000. population with an average death rate of 10.9 per 100,000 population, followed by cancer days of 12.4 per 100,000 population with an average death rate of 7.6 per 100,000 population. While the highest incidence rate for women is breast cancer, namely 42.1 per 100,000 population with an average death rate of 13.9 per 100,000 population and based on Riskesdas data in 2018 the prevalence of tumir / cancer in Indonesia shows an increase from 1.4 per 1000 population in 2013 to 1.79 per 1000 population in 2018. (Ministry of Health of the Republic of Indonesia, 2nd)

According to Smeltzer and Bre (2002), chemotherapy is the use of antineoplastic preparations as an attempt to kill tumor cells by disrupting cellular reproductive function. Desen (2008) explained that chemotherapy is a cancer modality therapy that is most often used in locally advanced and metastatic cancers and is often the only effective therapeutic method option. Chemotherapy can be given as the main therapy, adjuvant (additional), and neoadjuvant, namely adjuvant chemotherapy given during pre-surgery or pre-radiation (Sukardja, 2000). Adjuvant therapy refers to the treatment of cancer patients after surgical removal of the tumor (Johnson, et al. 2014)

Adjuvant chemotherapy is chemotherapy that is given as an adjunct therapy or following primary therapy, which aims to eliminate the microscopic residues of cancer cells, as well as to cure and reduce the risk of recurrence in patients. Adjuvant chemotherapy in CRC is recommended for stage III and stage II high risk, namely lymph node <12 pieces, poorly differentiated tumors, vascular / lymphatic / perineural invasion, tumors with obstruction / perforation and tumors with T4. (Sari et al., 2019).

Adjuvant chemotherapy that is widely used is the type of cytostatics in the form of a combination of FAM (5-fluoracil, adriamycin, and mitomycin c), where chemotherapy with 5-Fluoracil is given as many as 12 cycles in one period with the administration of chemotherapy drugs in each cycle for 2 x 24 hours, here that differentiates it from other cancer chemotherapy, such as breast cancer for the administration of 6-8 cycles of chemotherapy and giving each chemotherapy drug for 3-6 hours.

According to research by Pratiei, Widianti and Solehati (2017), 59.8% of breast cancer patients experience moderate state anxiety and 54.6% experience moderate trait anxiety. The same thing is also found in the research of Adipo, Jumaini, & Damanik (2015) obtained

data that from 39 respondents on average undergoing 2 to 6 cycles of chemotherapy, 12 patients (43.6%) experienced moderate anxiety levels and 22 patients (56.4%) very severe anxiety levels.

At Awal Bros Hospital, especially in the Chemotherapy room, there were still many patients who still showed anxiety, especially in patients in the early phase of undergoing chemotherapy, according to data that the researchers got in December 2020 there were 56 patients undergoing chemotherapy with various cancer diagnoses, 32 There were 28 patients suffering from gastrointestinal cancer, and there were 28 patients who underwent adjuvant chemotherapy, and of these 28 people there were 20 people who still expressed anxiety during chemotherapy, starting from always asking when it would be finished, what happened when chemotherapy drugs were given, and how you react at home after chemotherapy. And there are some patients who have arrived at the 9-10 cycle who feel their body has started to weaken and have experienced a decrease in enthusiasm and several times expressed their discontinuation of chemotherapy. There are 2 patients who experience anxiety which can be seen from the patient's behavior, in the first patient when an infusion for chemotherapy is going to be done, the patient always cries without being able to express a clear reason and this incident lasts from cycle 2 to cycle 10, and there is one patient. a woman with Adeno Ca Musinosum aged 28 years was undergoing chemotherapy in the 11th cycle suddenly at night the patient was hysterical, this incident occurred every time chemotherapy was carried out since the 9th cycle, when the study was carried out the patient had the belief that there were "other beings" who always followed him and disturbing most at night.

The education provided by specialists and nurses is not fully understood by patients considering that some chemotherapy patients are elderly so that patients are less able to open up and experience obstacles in conveying problems and feelings they experience. Based on the phenomena that occur above, the researcher is interested in studying the effect of Cognitive Behavior Therapy (CBT) with the Mind Over Mood method where subjects are invited to recognize, understand and ultimately change negative feelings, thoughts and behaviors, and this research is expected to contribute to science. knowledge specifically related to the mental health of cancer patients undergoing chemotherapy.

2 Methods

The type of research in this research is quantitative. The research used in this study is a quasi-experimental or so-called "Quasi Experiment" with pretest and posttest research without control. Because in this study, researchers only used the experimental class without a control class. Sugiyono (2007: 107) defines that experimental research is research that is used to find the effect of certain treatments on others under controlled conditions. The experimental method is an experimental activity that aims to identify a symptom that arises as a result of certain treatments. Research using this method is a study to determine cause and effect without involving a control group. This study uses a quantitative approach. The data obtained during the study were in the form of observations, interviews and assessing the level of anxiety of colorectal cancer patients who were undergoing chemotherapy before treatment (pre-test) and after treatment (post-test). Data in the form of pre-test and post-test scores will be processed using statistical data analysis methods. The statistical test used is paired data statistical test.

3 Results

Table 1. Characteristics of Respondents

Characteristics	Amount (n)	Frequency(%)
Age		
25 – 35 years	2	10%
36 – 45 years	2	10%
46 – 55 years	5	25%
56 – 65 years	11	55%
Genders		
Man	11	55%
Woman	9	45%

Source: Primary Data 2021

From table 1 above, it can be seen that the general frequency is dominated by the age of 56-65 years and the sex is dominated by men.

Table 2. Frequency Distribution of Respondents ‘ State Anxiety Levels and Respondents‘ Trait Anxiety Levels before Giving Cognitive Behavior Therapy

Level Cancer Patient Anxiety	State		Trait	
	F	%	F	%
Mild	1	5	1	5
Moderate	17	85	18	90
Severe	2	10	1	5
Total	20	100	20	100

Source: Primary Data 2021

From the table 2 above, it can be seen that the level of anxiety before being given intervention is mostly dominated by moderate anxiety levels in the State Anxiety category with 17 respondents (85%) and Trait Anxiety by 18 respondents (90%).

Table 3. Frequency Distribution of Respondents‘ State Anxiety Level and Trait Anxiety Level after Giving Cognitive Behavior Therapy

Level Cancer Patient Anxiety	State		Trait	
	F	%	F	%
Mild	18	90	19	95
Moderate	2	10	1	5
Severe	0	0	0	0
Total	20	100	20	100

Source: Primary Data 2021

From the table 3 above, it can be seen that the level of anxiety after being given intervention is mostly dominated by mild anxiety levels in the State Anxiety category as many as 18 respondents (90%) and Trait Anxiety as many as 19 respondents (95%).

Table 4. The Effect of Cognitive Behavior Therapy (CBT) on Anxiety Levels of Chemotherapy Patients in Long Cycle Colorectal Cancer at Awal Bros Hospital in Batam in 2021

Variabel	N	Median		Std.Dev		p Value
		SA	TA	SA	TA	
Before Intervention	20	2.00	2.00	394	324	0.000
After Intervention	20	1.00	1.00	308	224	0.000

Based on the table 4 above, the results of the analysis of 20 respondents are as follows: (1) The minimum value of the 20 respondents above shows the value before intervention / provision of CBT for moderate State Anxiety values, there are 17 respondents, mild 1 respondent, weight 2 respondents and Trait Anxiety was there 18 respondents mild No one respondent, and there are one responder weight after intervention / therapy State Anxiety is becoming the second respondent, light there are 18 respondents and for Trait Anxiety was no one respondent, there were 19 respondents light. After testing the normality of 20 respondents, the Sig. Value was obtained <0.005 , so it can be concluded that the data distribution is not normal. Furthermore, the researcher used an alternative test to see the frequency distribution of anxiety levels before and after the intervention giving CBT was carried out, namely by means of inferential static analysis, Non-Parametric-Bivariate hypothesis testing by testing different mean ratings (ordinal data) of 2 measurement results of the same group (for example, different mean ratings. pre test and post test). (Dharma, 2015). Based on the output "Test Statistics" in table 4.4 above, it is known that the value of p -value is 0,000. Because the value of 0.000 is less than <0.05 , it can be concluded that "H0 is rejected", or in other words there is "The Effect of Cognitive Behavior Therapy (CBT) on Anxiety Levels of Long Cycle Chemotherapy Patients of Colorectal Cancer at Awal Bros Hospital Batam Year 2021.

4 Discussion

The results of research related to the discussion about the therapy Cognitive Behavior Therapy in reducing Anxiety as an effort to optimize the mental functioning of patients by quantitative measurement obtained a decline in the degree of anxiety in patients with cervical cancer after the intervention using cognitive behavioral therapy (CBT), the results obtained are in all patients experienced a decrease in the category from the medium category to the low category. (Junaidi et al., 2019) This is in line with the research results obtained based on the author's observations and interviews while in the chemotherapy room of 20 respondents who underwent long cycle chemotherapy for 2x24 hours and as many as 12 times with a time difference of 14 days, there were 85% of patients. experiencing moderate state anxiety and 90% experiencing moderate trait anxiety and after being given CBT therapy with the mind over mood method for 5 sessions for 14 days the anxiety level decreased with 90% of patients experiencing mild state anxiety and 95% experiencing mild trait anxiety.

Respondents with severe anxiety levels require longer time and therapy than respondents with moderate anxiety, this is because patients with severe anxiety will find it more difficult to accept the intervention that will be given. In this study, patients feel comfortable and not burdened when given CBT therapy because respondents can choose what therapy is appropriate to the problem they feel and for respondents who are still experiencing moderate trauma are able to do the therapy independently so that the respondent's level of anxiety decreases can be resolved.

5 Conclusion

More than some chemotherapy patients before being given CBT with anxiety levels using the STAI-AZ method, there were 17 moderate State Anxiety results with a percentage of 85% and moderate Trait Anxiety there were 18 people with a percentage of 90 AND More than some chemotherapy patients after being given CBT with anxiety levels using the STAI method AZ showed that there were 18 people with mild State Anxiety with a percentage of 90% and 19 people with mild Trait Anxiety with a percentage of 95%. There is a difference in the level of anxiety of long cycle colorectal cancer chemotherapy patients who undergo chemotherapy before and after giving Cognitive Behavior Therapy (CBT) with the Mind Over Mood method which is proven based on statistical tests, namely a significant value is obtained <0.001 ($p = <0.05$), it can be concluded that “H₀ is rejected”, or in other words it can be concluded that there is a significant effect in the provision of Cognitive Behavior Therapy (CBT) on the anxiety level of chemotherapy patients.

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