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Research Article

The Effect of Cognitive Behavior Therapy on Self-Efficacy and Reducing Anxiety Levels in Hospitalized Patients

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Abstract

Self-efficacy, or the belief in one's ability to handle difficult situations, plays an important role in helping patients manage anxiety during hospitalization. Psychological interventions like Cognitive Behavioral Therapy (CBT) can strengthen self-efficacy and significantly reduce anxiety, improving both comfort and overall well-being. This study aimed to evaluate the effect of CBT in enhancing self-efficacy and reducing anxiety levels in hospitalized patients. A quasi-experimental design with a control group and pre-test post-test measurements was used. The study involved 45 respondents, selected through a saturated sampling technique, meaning all eligible participants who met the inclusion criteria were included. Data were analyzed using the Wilcoxon signed-rank test. The results showed that all respondents in the intervention group had consistently high self-efficacy before and after CBT. CBT significantly improved patients' confidence in managing their treatment period (p-value 0.000) and meaningfully reduced their anxiety levels (p-value 0.000). In contrast, the control group showed no change in self-efficacy (p-value 1.000) and experienced a slight increase in anxiety (p-value 0.257). These findings highlight the positive impact of CBT in helping patients feel stronger, calmer, and more in control during hospitalization. CBT is recommended as part of a holistic and compassionate approach to patient care in clinical settings.

Keywords: Anxiety, Cognitive Behavioral Therapy, Inpatients, Self-efficacy, Quasi-Experimental.

Introduction

Hospitalization is a type of care where patients are treated and stay in the hospital for a certain period. The hospital must provide the best service to patients during the treatment period (Ministry of Health of the Republic of Indonesia, 2021). Hospitalization is carried out for several reasons, such as patients who will undergo surgery, the patient's condition does not improve while in the hospital, or the patient's health condition continues to decline. However, anxiety can occur in patients where there is a psychological reaction that arises in patients who feel threatened or uncomfortable in the hospital environment, often triggered by health conditions and medical procedures that will be carried out (Karno & Thalib, 2024).

The presence of mental health problems in the past month in individuals aged ≥15 years according to Province, Indonesian Health Survey (SKI) in 2023 with the number of cases in North Sumatra around 1.8% of the average value of all provinces in Indonesia with a total of 2%. This shows the high level of mental disorders in North Sumatra Province (Central Bureau of Statistics, 2023). In addition to anxiety disorders, self-confidence or self-efficacy disorders can occur.

Self-efficacy is a belief in oneself towards one's abilities. This can be stated that one can do

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something or overcome a situation, and one will succeed in doing so. Bandura also added that self-efficacy has an important impact, High levels of self-efficacy can reduce a person's potential to experience negative feelings of stress by increasing the sense of being able to control the situations they face. Self-efficacy in a strong category from within a person is needed to be able to recover from an illness, even though basically this illness may not be curable (Rustandi & Gumilang, 2020). Self-efficacy plays an important role in anxiety. Anxiety therapy may focus on increasing self-efficacy to reduce avoidance behavior (Fürtjes et al., 2023).

Anxiety can happen to anyone in acute or chronic forms.(Abate et al., 2020). Physiological symptoms experienced by a person such as increased heart rate, heart palpitations, shortness of breath, faster breathing, pain or pressure in the chest, choking sensation, dizziness, sweating, hot feeling, body shivering, nausea, stomach ache, diarrhea; trembling, tingling or numbness in the arms and legs, weakness, instability, fainting, muscle tension, stiffness; and dry mouth (Chand & Marwaha, 2024). Anxiety assessment can help identify individuals at high risk for suicide (Liao et al., 2024). Patients with anxiety should be monitored in the future. Patients with anxiety conditions require lifelong follow-up because, despite drug therapy, the relapse rate remains high (Chand & Marwaha, 2024).

Based on the analysis conducted by Abate et al. (2020)revealed that preoperative anxiety among surgical patients by country was highest in India at 67%, followed by Tunisia at 67%, Saudi Arabia at 60%, and several other countries. According to Donahue et al. (2021), anxiety is a significant clinical condition associated with end-stage renal disease mortality and negatively impacts quality of life, with treatment options including pharmacological and non pharmacological approaches.

Anxiety is a feeling of fear that often arises when someone thinks about things that have not happened in the future. This condition involves a complex response, including thoughts, emotions, body reactions, and behavior. All of these responses work together as a form of self-preparation when facing situations or events that are considered threatening (Chand & Marwaha, 2024). Anxiety can interfere with the patient's healing process (Bamijoko-Okungbaye, 2020). Therefore, prevention and therapy need to be carried out. Study Chen (2024) shows that social anxiety can be treated effectively using cognitive behavioral therapy.

Cognitive behavioral therapy is also an effective treatment methodology based on the analysis of several cases (Abdi et al., 2023). Cognitive Behavior Therapy (CBT) is the standard treatment for anxiety and stress disorders. CBT uses specific techniques to target unhelpful thoughts, feelings, and behaviors that have been shown to cause and maintain anxiety (Curtiss et al., 2021).

A study (2023) showed that Cognitive Behavior Therapy (CBT) has been effective in improving self-care management of hypertensive patients. The study by Sherly (2020) also stated that there was a decrease in the level of social anxiety in all participants after the CBT intervention. Study Tanaya and Yuniartika (2023) stated that there is an influence of CBT on anxiety levels in the elderly. Research Masnur et al. (2022) stated that CBT with group counseling conducted using effective self-instruction techniques can increase self-efficacy.

A preliminary study conducted for 2 days in the hospital found that several patients experienced anxiety about the therapy they would undergo. Some other patients experienced fear of the prognosis of the treatment they underwent. A literature study found previous research that had been conducted on the effect of CBT on self-efficacy. In addition, CBT on anxiety and stress, but no one has looked simultaneously at the effect of Cognitive Behavior Therapy on self-efficacy and reducing patient anxiety levels. This study will be conducted abroad with inpatients whose treatment days are quite long according to the therapy to be given. Therefore, the author is interested in conducting research with the aim of determining the effect of providing Cognitive

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Behavior Therapy on self-efficacy and reducing anxiety levels of inpatients.

Method

This study used a quantitative method with a quasi-experimental design using a control group pre-test and post-test design approach. The study involved two groups, namely the intervention group that received treatment and the control group that did not receive treatment. Measurements were taken before and after the intervention (pre-test and post-test) in both groups to determine the effectiveness of the treatment given.(Polit & Beck, 2020). The design of this study is to provide Cognitive Behavior Therapy for self-efficacy and reduce anxiety levels in hospitalized patients.

This study was conducted at Private Hospital, Saudi Arabia because the population was sufficient for the study to be conducted with a sufficient number of samples needed. The study was conducted from January 2025. The population was 45 inpatients in the Hemodialysis room of a Private Hospital, in Saudi Arabia. The inclusion criteria treatment and the control group were: patients aged ≥ 20 years, able to read and write, with a length of treatment ≥ 1 week. The exclusion criteria were: patients who would be referred to another hospital, and patients who went home on their own, so the number of samples taken for this study was 45 respondents.

The instrument in this study used several questionnaires. The self-efficacy instrument used the Generalized Self Efficacy scale (GSE) which has 10 questions with the categories STS means strongly disagree, which means the statement is very contrary to the respondent's personality and the respondent strongly rejects it; TS means disagree, meaning the statement is not in accordance with the respondent's personality; S means agree, which means the statement is in accordance with the respondent's personality; and SS means strongly agree, meaning the statement is very much in accordance with the respondent's personality and the respondent always does it. The total score can be calculated by adding up all the items, for the total score, which ranges between 10 and 40, the higher score obtained indicates a high level of self-efficacy.

Anxiety level instruments can be grouped using several HARS (Hamilton Anxiety Rating Scale) criteria. Elements include: feelings of anxiety, tension, fear, sleep disturbances, intellectual disorders, feelings of depression, somatic symptoms, respiratory symptoms, cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, urinary symptoms, autonomic symptoms, and behavioral symptoms. Elements that are assessed can use scoring. Select one of five responses for each of the fourteen questions., with the following assessment provisions: score means No symptoms, 1 means Mild symptoms, 2 means Moderate symptoms, 3 means Severe symptoms, and 4 means Very severe symptoms. Each item is rated on a scale of 0 (none) to 4 (severe), with a total score range of 0-56, where <17 indicates mild severity, 18-24 mild to moderate severity, and 25-30 moderate to severe severity.

Researchers conducted interventions with Cognitive Behavior Therapy with mind over mood techniques, conducted directly under the guidance of a psychologist. The therapy session lasted for five meetings, each 120 minutes long. The implementation of CBT was carried out with three worksheets consisting of a mind over mood sheet to help identify feelings, thoughts, and behaviors; a worksheet thought record to help identify positive and negative thoughts; and an action plan to help subjects conduct experiments.

Data analysis in this study can be done using univariate and bivariate analysis. Before conducting the research hypothesis test, the data analysis requirements test is first carried out, namely the normality test, and if it is found that the data is not normal, then the Wilcoxon test is used.(Hidayat, 2021).

Result

The results of the study on the effect of Cognitive Behavior Therapy on self-efficacy and reducing anxiety levels of inpatients can be seen in the table below.

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Demographic Data

Table 1. Frequency Distribution of Respondent Characteristics

Characteristics	Intervention		Control	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age				
21 – 30 years	8	17.8	7	15.6
31 – 40 years	8	17.8	9	20.0
41 – 50 years	26	57.8	26	57.8
51 – 60 years	3	6.7	3	6.7
Gender				
Man	17	37.8	18	40.0
Woman	28	62.2	27	60.0
Education				
Senior High School	10	22.2	11	24.4
College	35	78.8	34	75.6
Work				
civil servant	1	2.2	2	4.4
Farmer	3	6.7	3	6.7
Housewife	9	20.0	9	20.0
Private sector employee	26	57.8	24	53.3
Self-employed	6	13.3	7	15.6
Religion				
Islam	45	100.0	45	100.0
Treatment History				
1 week	0	0.0	32	71.1
> 2 weeks	45	100.0	13	28.9

Table 2. Self-efficacy in Patients Before and After Cognitive Behavior Therapy

Category	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Self-efficacy-tall	45	100.0	45	100.0
Total	45	100.0	45	100.0

Table 3. Anxiety Level in Patients Before and After Cognitive Behavior Therapy

Category	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Mild Severity Level	1	2.2	1	2.2
Mild to Moderate Severity	18	40.0	19	42.2
Moderate to Severe Severity	14	31.1	18	40.0
Severity Level	12	26.7	7	15.6
Total	45	100.0	45	100.0

Based on Table 1, the characteristics of respondents in the intervention group show that many respondents were aged 41-50 years, 26 people (57.8%), female 28 people (62.2%). Most of the education from college, 35 people (78.8%). Work history as private employees, 26 people (57.8%). All respondents are Muslim and with a history of treatment for > 2 weeks, 45 people

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(100%). Based on the characteristics of respondents in the control group, it shows that many respondents are aged 41-50 years 26 people (57.8%), female 27 people (60%). Most of the education is from college, as many as 34 people (75.6%). Work history as private employees as many as 24 people (53.3%). All respondents are Muslim and with a history of treatment within one week as many as 32 people (71.1%).

Self-efficacy

Based on Table 2, the data obtained from the pre-test and post-test self-efficacy results showed no change and were still in the same category, namely high self-efficacy.

Anxiety Level

Based on Table 3, the pre-test results show that the most anxiety was in the mild to moderate severity category with 18 respondents (40%). The post-test results showed that there was a change in anxiety where the mild to moderate severity increased (42.2%). In the severe anxiety category, there was a significant decrease where 26.7% became 15.6% after the administration of Cognitive Behavior Therapy.

The Effect of Cognitive Behavior Therapy on Self-efficacy

Based on Table 4, the pre-test Self-efficacy value data was obtained with an average value of 29.38 and the post-test increased to 31.40, with a Z value of-5,636[b] and p-value 0.000. This shows that there is a statistically significant difference between self-efficacy scores before and after CBT intervention.

The Effect of Cognitive Behavior Therapy on Anxiety

Based on Table 5, the pre-test anxiety value data was obtained with an average value of 27.76 and the post-test decreased to 25.93, with a Z value of-5.363[c] and p-value 0.000. This shows that there is a statistically significant difference between anxiety scores before and after CBT intervention.

Self-Efficacy in the Control Group

Table 6 shows that respondents with the category Self-efficacy were high in the pre-test and post-test control groups, as many as 42 people (93.3%), and there were only 3 respondents in the low category (6.7%).

Control Group Anxiety Level

Table 7 the level of anxiety of respondents in the control group in the pre-test was mostly at the moderate to severe anxiety level, amounting to 17 respondents (37.8%). In the post-test, there was a change where the number of respondents with severe anxiety increased to 20 respondents (44.4%).

Self-efficacy in the Control Group/ Without Cognitive Behavior Therapy

Based on Table 8, the value data was obtained from Self-efficacy on the pre-test and post-test with an average value of 1.93, with a Z value of 0.000[b] and a p-value of 1,000. This shows that there is no statistically significant difference between the scores. Self-efficacy respondents in the control group when receiving treatment at the hospital.

Anxiety Level in the Control Group/Without Cognitive Behavior Therapy

Based on Table 9, the anxiety value data was obtained in the pre-test with an average value of 2.82 and the post-test was 2.76, with a Z value of -1.134[c] and p-value 0.257. This shows that there is no statistically significant difference between the anxiety scores of respondents in the control group when hospitalized.

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Table 4. The Effect of Cognitive Behavior Therapy on Self-efficacy

Self-efficacy	Mean	N	Std. Deviation	Z	Sig. (2-tailed)
Pre-test	29.38	45	0.747	-5,636[b]	0,000
Post-test	31.40	45	1,232		

Table 5. The Effect of Cognitive Behavior Therapy on Anxiety

Anxiety	Mean	N	Std. Deviation	Z	Sig. (2-tailed)
Pre-test	27.76	45	5,192	-5,363[c]	0,000
Post-test	25.93	45	4,580		

Table 6. Self-Efficacy in the Control Group

Category	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Self-efficacy low	3	6.7	3	6.7
Self-efficacy-tall	42	93.3	42	93.3
Total	45	100.0	45	100.0

Table 7. Level Control Group Anxiety

Category	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Mild Severity Level	2	4.4	2	4.4
Mild to Moderate Severity	15	33.3	15	33.3
Moderate to Severe Severity	17	37.8	20	44.4
Severity Level	11	24.4	8	17.8
Total	45	100.0	45	100.0

Table 8. Self-efficacy in the Control Group/ Without Cognitive Behavior Therapy

Self Efficacy	Mean	N	Std. Deviation	Z	Sig. (2-tailed)
Pre-test	1.93	45	0.254	0.000[b]	1,000
Post-test	1.93	45	0.254		

Table 9. Level Anxiety in the Control Group/ Without Cognitive Behavior Therapy

Anxiety	Mean	N	Std. Deviation	Z	Sig. (2-tailed)
Pre-test	2.82	45	0.860	-1.134[c]	0.257
Post-test	2.76	45	0.802		

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Discussion

Self-efficacy in Patients Before and After Cognitive Behavior Therapy

Based on the results of the pre-test and post-test self-efficacy research, there was no change, it was still in the same category, namely the category with high self-efficacy before and after the intervention. Cognitive Behavior Therapy means there is no difference. Based on the assumptions, the researcher shows that self-efficacy. All respondents were already in the high category so even though they were given CBT they would still be in the high category of self-efficacy high. This shows that the respondents are in a good state of self-confidence.

The results of another study showed that CBT with self-talk techniques was proven to be effective in increasing self-efficacy because it helps individuals change negative thought patterns to become more adaptive and constructive (Budiman et al., 2020). The main goal of cognitive intervention is to facilitate the formation of more adaptive thought patterns through the application of cognitive restructuring techniques and behavioral experiments (Curtiss et al., 2021).

High levels of self-efficacy increase an individual's belief in their ability to achieve success. Difficult situations often make individuals with low self-efficacy tend to give up easily, while those with high self-efficacy will try harder to overcome challenges. Self-efficacy forms a positive cycle, where self-belief encourages active involvement in tasks, improves performance, and ultimately strengthens self-confidence. The level of self-efficacy also influences decision-making, and the resilience of individuals when facing obstacles or difficulties (Lianto, 2019).

Anxiety Levels in Patients Before and After Cognitive Behavior Therapy

The findings indicated a significant reduction in anxiety levels among patients following the administration of Cognitive Behavioral Therapy. Initially, most individuals experienced anxiety of mild to moderate severity; however, the intervention effectively alleviated the intensity of their symptoms. Cognitive behavioral therapy is effective in treating a variety of medical conditions such as psychosomatic illnesses, psychiatric disorders, and socio-behavioral problems. It has shown short-term effectiveness, but some studies have reported significant long-term treatment effects on aspects of mental health such as obsessive-compulsive disorder, although the literature is limited (Cludius et al., 2020). Study Haikal (2022) shows that cognitive behavioral therapy can reduce anxiety symptoms where the subject's anxiety level decreases gradually. Besides that, CBT and music therapy are effective in reducing anxiety in patients with mental disorders (Fauziah & Kesumawati, 2021). CBT for anxiety disorders is less effective in reducing symptoms among those with more severe anxiety symptoms. The severity of depression at the start of cognitive therapy is generally associated with a lower treatment response (Brenninkmeijer et al., 2019).

Cognitive Behavior Therapy (CBT) has shown potential for greater effectiveness than minimal management in reducing post-treatment anxiety, worry, and depressive symptoms in older adults with anxiety disorders. However, evidence regarding its long-term effectiveness and its impact on other outcomes, such as recovery or clinical improvement, is limited. Furthermore, there is insufficient data to conclude that CBT is superior to alternative psychological interventions in treating anxiety in older adults (Hendriks et al., 2021). CBT plays a role in reconstructing irrational thoughts into more realistic and adaptive thoughts and reducing the strength of beliefs regarding cognitive distortions experienced by individuals (Haikal, 2022).

Many factors influence anxiety in hospital patients. Common stressors found across all types of care units include pain, sleep disturbances, feelings of frustration, overwhelm, and fear of the unknown. Stressors related to feelings of isolation or meaninglessness, as well as fear and frustration, also tend to occur together and reinforce each other (Palmer et al., 2021). Gender and disease can be factors causing anxiety, hypertension in

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female patients, and education level. Female gender and duration of hospitalization were also identified as major predictors of stress (Palmer et al., 2021). This finding is in line with the results of this study which showed that the majority of patients who experienced anxiety during treatment were women.

The Effect of Cognitive Behavior Therapy on Self-efficacy

The statistical analysis using the Wilcoxon Signed-Rank Test demonstrated a significant difference in anxiety levels before and after the intervention, indicating the effectiveness of Cognitive Behavioral Therapy in reducing anxiety among patients. These results indicate that there is a significant difference between self-efficacy scores before and after the Cognitive Behavior Therapy (CBT) intervention in inpatients. Thus, the researcher assumes that the CBT intervention has a significant effect on increasing patient self-efficacy. This assumption is based on the theoretical basis that CBT is a psychotherapy approach that focuses on identifying and restructuring negative thoughts accompanied by adaptive behavioral training. A person is given the ability to change dysfunctional thought patterns through this process to be more positive and realistic, thus supporting increased perceptions of self-efficacy.

This varies according to Brenninkmeijer et al. (2019) where the benefits of work-focused cognitive behavioral therapy (W-CBT) compared to Regular cognitive behavioral therapy (R-CBT) in encouraging individuals to return to work are partially unaffected by initial levels of self-efficacy. Based on findings from Yang et al. (2022) showed that studies involving a total of 1,060 participants assessed self-efficacy-related outcomes where CBT was significantly more effective than other interventions with low-quality evidence.

Self-efficacy and health literacy play a mediating role in the relationship between proactive personality and health-promoting behaviors.(Wang et al., 2025). Psychologically, data suggests that there is a relationship between education level and certain personality traits or psychological tendencies. Education and the experiences associated with it can influence how people view themselves (Self-efficacy), how they interact with others (introversion), and how kind and cooperative they are (agreeableness) (Chiș et al., 2024). In line with the research, most respondents have a college education background where it is easy to obtain information. Good knowledge and a good support system will show self-confidence in carrying out preventive health behaviors so that it will produce good health conditions both physically, mentally, and socially which cover the four dimensions of quality of life (Kusol & Kaewpawong, 2023).

The Effect of Cognitive Behavior Therapy on Anxiety

The analysis using the Wilcoxon Signed-Rank Test confirmed a statistically significant reduction in anxiety levels after the intervention, supporting the effectiveness of Cognitive Behavioral Therapy in helping patients manage their anxiety. This finding indicates that there is a significant difference between the level of anxiety before and after Cognitive Behavior Therapy (CBT) intervention given to inpatients. CBT has a significant effect in reducing the level of patient anxiety.

This assumption is based on a theoretical framework stating that CBT is a structured psychotherapy approach that aims to identify, evaluate, and modify maladaptive thoughts and behaviors. Through techniques such as cognitive restructuring, relaxation training, and problem-solving skills, patients are taught to recognize irrational thought patterns that trigger anxiety and replace them with more rational and adaptive thought patterns.

Study Brenninkmeijer et al. (2019) mentioning the effectiveness of CBT on RTW (Return to Work) did not depend on the level of depression or anxiety complaints at the beginning of the intervention. As with other psychotherapy interventions, not all individuals respond equally to CBT. Cognitive Behavior Therapy (CBT) has been shown to be effective in improving the

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quality of life of patients with anxiety disorders (Li et al., 2021). Research has shown a variety of transdiagnostic cognitive behavioral therapy protocols to be effective in treating anxiety (Bentley et al., 2021). The application of Cognitive Behavioral Therapy (CBT) has been proven to have a positive impact in overcoming symptoms of social anxiety in intervention subjects (Rahmadiani, 2020).

An important aspect of cognitive behavioral therapy is its methodological approach, which includes cognitive restructuring and behavioral activation techniques aimed at changing negative thought patterns and encouraging adaptive behavior. This was demonstrated in a study focused on social anxiety, where cognitive behavioral therapy significantly reduced anxiety levels through techniques such as cognitive restructuring and role-playing (Mukhtar et al., 2024).

Study Salartash et al. (2022) found that cognitive behavioral therapy significantly improved anxiety, physical symptoms, worry, and attention deficits in women with generalized anxiety disorder. The study by Afsharzada et al. (2023) also shows that cognitive behavioral therapy is very effective in treating anxiety-related conditions such as generalized anxiety disorder and social anxiety disorder. Cognitive behavioral therapy presents a comprehensive and highly effective strategy for relieving anxiety symptoms.

Self-efficacy in the Control Group

Based on the results of data processing, it shows that many respondents have high self-efficacy. Self-efficacy is the main, dominant, and very essential determinant in facilitating lifestyle changes in individuals with chronic diseases. According toThe Greatest Showman (2020), higher levels of self-efficacy in patients contribute significantly to the effectiveness and success of the treatment process.

Many factors can influence self-efficacy in patient treatment, such as knowledge, emotions, motivation, family support, and health services (Sundari et al., 2023). Self-efficacy plays an important role in influencing how a person thinks, feels, motivates themselves, and acts. Several factors that can influence the level of self-efficacy include gender, age, education level, and individual experience. For people with hypertension, self-efficacy is a crucial aspect in efforts to improve health, especially through confidence in one's ability to carry out self-care. Optimal implementation of self-care plays a role in reducing the risk of more serious complications (Wardhani et al., 2019).

According to the researcher's assumption, the high level of self-efficacy in hospitalized patients is caused by several factors such as education where the majority are highly educated. In addition, the economy also has a high influence because they generally have a large income with health insurance. This greatly affects motivation in treatment because it does not burden their lives.

Anxiety Level in the Control Group

The level of anxiety of respondents in the control group in the pre-test was mostly at moderate to severe anxiety levels. The post-test results showed a change where the number of respondents with severe anxiety increased. Anxiety is caused by 2 factors, namely internal and external factors. Internal factors such as age, gender, education, economic status, occupation, level of knowledge, self-concept disorders, trauma, physical disorders, and threats to self-esteem. External factors are therapeutic communication, family support, social support, and types of disease/medical action (Arif & Listyaningrum, 2022).

Based on data on the prevalence of preoperative anxiety disorders in the United States, it was recorded that the incidence rate reached 28% or more, with women having a higher risk of experiencing anxiety than men. Globally, it is estimated that around 20% of the population experiences anxiety before undergoing surgery. Meanwhile, in Indonesia, the prevalence of preoperative anxiety is reported to range from 9% to 12% (WHO, 2020). Based on the assumptions of researchers, it shows that patients experience increased anxiety. Changes in anxiety

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are caused by many factors such as family support, type of disease, and type of medical action. This can be the cause of changes in anxiety levels in patients.

Self-efficacy in the Control Group/ Without Cognitive Behavior Therapy

The pre-test results for self-efficacy showed no statistically significant difference, suggesting that there was no meaningful change in patients' self-efficacy levels prior to the intervention. Self-efficacy respondents in the control group received treatment. Research by Jumain et al. (2020) found that many respondents have low levels of self-efficacy. Stroke patients generally experience physical weakness, which has a negative impact on decreasing self-efficacy in the recovery process. Low confidence in recovery often gives rise to a reluctance to do activities. This affects the patient's quality of life, including the level of compliance with the therapy given. According to the researcher's assumptions, there is a change in self-efficacy among respondents in the control group because no intervention was given. In addition, the type of disease and other factors also have an effect. Patients with chronic diseases and family support are factors that influence self-efficacy.

Anxiety Level in the Control Group/Without Cognitive Behavior Therapy

The research results showed that there was no statistically significant change in anxiety levels between the pre-test and post-test, indicating that the intervention had a limited effect in reducing anxiety within the observed group. This shows that there is no statistically significant difference between the anxiety scores of respondents in the control group when receiving treatment at the hospital.

Study Damanik (2020) shows that most patients undergoing hemodialysis experience moderate levels of anxiety. According tothe Last Supper (2018) revealed the highest level of anxiety was in the moderate category, followed by severe anxiety, and mild anxiety. The level of anxiety in hemodialysis patients is influenced by several factors, including age, type of work, length of hemodialysis, and family support. The results of the study showed that having support from the family can make patients with chronic kidney disease (CKD) feel more appreciated. Social support from the family plays an important role in supporting the healing process and psychological well-being of patients (Adi et al., 2024).

Limitation

This study has several limitations that need to be considered. First, the study subjects only involved patients with mild to moderate anxiety levels and a specific age group, so the results cannot be generalized to all levels of anxiety or a wider age range. Second, the study was conducted in one specific location, so the results do not represent a more diverse population or different environments. Third, the intervention used was Cognitive Behavioral Therapy (CBT) with structured sessions for a limited time and referring to standard modules, so it does not cover a wider variety of CBT techniques. Fourth, the study only focused on two main variables, namely self-efficacy and anxiety levels. Other variables such as social support, personality, or health conditions were not analyzed. Fifth, the measurement of self-efficacy and anxiety used standard instruments that, although valid and reliable, still have limitations in interpreting the results. Finally, this study used a quasi-experimental design without full randomization, so the potential for the influence of external variables remains even though control efforts have been made.

Conclusion

The results of this study indicate that the provision of Cognitive Behavioral Therapy (CBT) can significantly increase self-efficacy and reduce anxiety levels in hospitalized patients. Before and after the intervention, most patients had high self-efficacy, but after receiving CBT, their confidence in facing treatment became stronger. In addition, CBT has been shown to be effective in helping patients reduce anxiety that was previously at mild to moderate levels. In contrast, in the control

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group that did not receive CBT, self-efficacy tended to remain the same, and anxiety levels increased. These findings confirm that CBT can be a useful intervention to help patients become calmer, and to manage psychological burdens during treatment.

This study can be a baseline for further studies with a wider and more diverse sample coverage and using longitudinal methods to see the long-term impact of CBT on patients' psychological conditions. Further researchers are also advised to explore the effectiveness of combining CBT with other approaches, such as mindfulness or relaxation therapy, in the context of inpatient care.

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