SELF-EFFICACY REDUCES RELAPSE IN DRUG ABUSE WITH COGNITIVE BEHAVIOUR THERAPY

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Abstract

Maladaptive substance abuse (NAPZA) can lead to clinically significant disorders. According to the National Narcotics Agency (BNN) states that around 90 percent of former drug addicts who undergo the rehabilitation process experience a relapse and return to abusing drugs. The research results show that cognitive Behaviour Therapy (CBT) is an effective intervention method in treating drug abuse. This research aims to test the effectiveness of cognitive behavior therapy to increase self-efficacy to reduce the risk of relapse in drug abusers. The research used a pre-posttest experimental method with a control group. Research respondents were selected using a purposive sampling technique with a sample size of 30 people. Both groups were given the Drug Abstinence Self-Efficacy Scale (DASES) measurement to see the effectiveness of applying cognitive behavior therapy in increasing self-efficacy in addicts who have participated in the rehabilitation program. The change in self-efficacy in both groups from medium to high was 66.7% after the intervention. Comparison between the two groups before the intervention where the significance value was $p = 0.399$ and after the intervention there was a change in the score between the two groups to 0.001. There was a significant difference between the two groups before and after the intervention, with a value of $p = 0.001$. Meanwhile, there was no substantial change in the control group in $p=0.177$. CBT is effective in increasing abstinence self-efficacy in drug addicts as an effective therapy to reduce the risk of relapse in drug addicts in rehabilitation programs

Keywords: Cognitive Behaviour Therapy (CBT), Drugs Abuse, NAPZA, Relapse, Self-Efficacy

INTRODUCTION

Drug abuse is a serious problem in Indonesia because cases continue to increase every year and attack various levels of society. Recorded 12,890 drug cases as of the first quarter of 2021. National Narcotic Agency (BNN) reported approximately 2,049 cases recorded in North Sumatra with the highest number of people caught in narcotics, namely 2,661 suspects, 291 cases of drug abuse. Meanwhile, the remaining 12,599 cases are being handled by the National Police (BNN, 2022).

Understanding the dependency cycle resulting from maladaptive substance abuse has physical, psychological, and social impacts. Almost 90% of former drug addicts who undergo the rehabilitation process experience a relapse and return to abusing drugs. Investigation one study, 40% of 6,000 addicts have a relapse and 43.9% recurrence rate (Ratih, 2020). Drug abuse can cause a decrease or change in consciousness, loss of taste, reduce or eliminate pain, and can cause dependence. Other addictive substances are ingredients that cause dependence are dangerous for health and cause changes in the way of behaviour (Kusuma, 2020; Suwarni, 2021; Kurniawati et.al, 2021; Anisa et al, 2023).

Relapse as the most common treatment outcome for addiction and should be addressed, anticipated, and prepared for during treatment. The relapse prevention model views relapse not as a failure but as part of the recovery process and an opportunity to learn (Bocktin et.al, 2015). According to Emrick & Beresford, (2016); Amat et al., (2020) many risk factors cause relapse, it is not yet fully understood why it is so difficult for drug addicts to be free from their addictive behaviour (McKay et al., 2006; Koob, 2020). Several factors indicate an increase in a person's vulnerability to relapse with several studies attempting to identify personal characteristics and experiences that are considered to have triggered certain relapse episodes, therefore this research focuses on the process cognitions, beliefs, moods, interpersonal experiences and other situational factors that appear momentarily or at the beginning of the relapse phase (Marlat and Gordon; Bardideh, 2017; Yohanie et al, 2023; Fitriana & Waswa, 2024; Zakiyah, Boonma, & Collado, 2024). Cause someone to relapse is belief in their abilities. An individual's belief in his or her ability to refuse and remain abstinent from using drugs so as not to experience a relapse called Abstinence Self-Efficacy, determines an individual's thoughts and feelings to stay away from drugs. An individual can increase his confidence to refuse drug use by increasing his coping skills in solving the problems he faces Larimer (Venkatesh et al., 2011; Volkow et al., 2015).

Define self-efficacy as a sense of empowerment and involves an individual's ability to behave in certain situations and conditions as a cognitive process, which will then influence behavior and results. Self-efficacy is specific to a particular situation and not general like self-confidence (Cramer et al., 2009). Thinking processes that try to be positive will produce positive behavior, otherwise negative thought processes will produce negative behavior. Optimism states that it is a habit of positive thinking, a positive and realistic way of looking at a problem (Putra et al., 2023; Helida, Ching, & Oyewo, 2023; Herawati, Khairinal, & Idrus, 2023; Habibi, Jiyane, & Ozsen, 2024).

The role of self-efficacy in everyday life is very important because self-efficacy can determine how individuals will behave in the future. Cognitive behavioral therapy (CBT) is one of the effective intervention methods to treat drug abuse. While there are a variety of methods available, CBT outperforms other psychological approaches. CBT's mechanism effectively enhances patients' cognitive ability to resist deviant behavior towards themselves, others, and the environment (Larimer et al., 1999; An, 2017). The initial approach of CBT is more aimed at preventing relapse into drug use, motivating abstinence, coping mechanisms and reinforcement, management, how to manage pain due to "craving", and how to improve interpersonal relationships and get social support (An H, et.al 2017). Addicts also need to restructure their irrational thoughts about drugs. So to overcome this problem, CBT intervention is very suitable for drug addicts because it can improve coping abilities and restructure cognitive abilities (Muslim, et.al, 201).

A person who abuses drugs can disrupt the role of the brain's prefrontal cortex, which controls a person's executive functions to regulate thinking, activities, prioritizing tasks, managing time, taking action, decisions, emotions, and drives, and making choices. Continued drug use disrupts the prefrontal cortex, which in turn damages various executive functions (Moreira et al., 2015). Based on the explanation above and the urgency of the conditions faced globally, especially at the Bahri Nusantara Foundation (BANTARA) Indonesia which is located at Jalan Yusuf Jintan, Hamlet North Sumatra National Narcotics, researchers need to conduct research using CBT analysis whose effectiveness increases abstinence self-efficacy in drug addicts it can reduce the risk of relapse and also obtain an overview of the characteristics of respondents based on age group, gender, and education level before and after CBT. Analyzing the differences in Abstinence Self-Efficacy before and after being given CBT effectiveness of implementing CBT to increase Abstinence Self-efficacy in drug addicts.

This study examines the application of CBT in groups of productive age and measures differences in self-efficacy as an outcome score related to relapse rates. This study examines the application of CBT in groups of productive age and measures differences in self-efficacy as an outcome score related to relapse rates. Previous studies have emphasized behavioral therapy, whereas in this

study self-efficacy plays an important role in motivation and resilience in behavior change by focusing on thinking skills related to belief in one's ability to overcome difficulties.

RESEARCH METHOD

This research used a quasi-experiment with a non-randomized one-group pretest-posttest design with a minimal sample of 30 respondents divided into 2 groups, namely 15 experimental groups and 15 control groups. Each group was given measurements twice, namely before and after, but only the experimental group was given the intervention Measurement before treatment and after treatment using the DASES Scales which have been translated and modified into Indonesian to measure the Abstinence Self Efficacy Scale. is a measuring instrument to assess the cognitive process that involves a person's assessment of his ability and confidence to be able to maintain himself in abstinence behavior. This phase can be measured using the Drug Abstinent Self-Efficacy Scale (DASES) with a Cronbach's alpha range of 0.90 to 0.93, proving this measuring instrument has good reliability. The correlation coefficient has a value range of 0.75 to 0.98 (Hoeppner et al., 2011).

All drug addicts who are undergoing a rehabilitation program at the Bahri Nusantara Foundation (BANTARA) Indonesia were selected as research samples using purposive sampling techniques based on the following Inclusion criteria: Multidrug addict, aged 17-55 years, minimum high school education, have used drugs for at least 1 year with regular or continuous use. Exclusion Criteria; addicts have a history of general medical conditions, addicts experience mental disorders, not willing to be a research respondent.

The cognitive behavioral intervention was given for 4 weeks consisting of 5 stages.

Table 1. Stage of Cognitive Behavior Therapy

Stage	Activities
Stage I	Rapport and Problem Identification, Analysis of causes of addictive behavior
Stage II	Problem analysis using the cognitive restructuring method
Stage III	Psychoeducation for problem-solving
Stage IV	Evaluation of the program implementation
Stage V	Termination

Design of intervention with measurements before and after treatment using the DASES Scales which have been translated and modified into Indonesian to measure self-efficacy (Khazaee-Pool, et.al, 2021). The 30 respondents are all drug addicts who are undergoing rehabilitation. its implementation, it is divided into 2 groups of 15 drug addict respondents who are not given CBT therapy as a control and 15 drug addict respondents who are given intervention using CBT.

Table 2. Intervention design

Respondent	Time 1	Intervention	Time 2
A	O1	I	O2
B	O1	-	O2

Information: A: Experimental Group. B: Control group O1: Measurement of Abstinent Self-Efficacy before CBT intervention O2: Abstinent Self-Efficacy Measurement after CBT intervention I: CBT intervention.

Cognitive Behaviour therapy is one of the supportive therapies that is often carried out to train how to think (cognitive) and how to act (behavior), in this CBT a person is invited to play an active role in changing the point of view of the problems or conflicts faced by someone by playing an active role in being able to find an approach or solutions to problems faced independently and how a person reacts to conflict (Tisnasari, 2022; Putri & Mufit, 2023; Setiyani, Baharin, & Jesse, 2023; Leekhot, Payougkiattikun, & Thongsuk, 2024). The basic concept of CBT involves thoughts, feelings, physical sensations, and actions taken that are interconnected and influence each other. Negative ways of thinking and feelings can make someone shackled in increasingly serious problems. If this continues, it will cause physical complaints. CBT can help to process negative thoughts and feelings into positive forms of behavior. General principles in CBT for cognitive restructuring, emotional management, and behavioral training by providing psychoeducation, thought catching, relaxation, reality tests,

interoceptive exposure, affirmations, and role play. The dependent variable of this research is Abstinence Self Efficacy (Nurlita, 2023).

Abstinence Self-Efficacy is a cognitive process that involves a person's assessment of their ability and confidence to be able to maintain themselves in abstinence behavior, this phase can be measured using the Drug Abstinent Self-Efficacy Scale (DASES) with a Cronbach's alpha range from 0.90 to 0.93, proving a measuring tool it has good reliability. The correlation coefficient has a value range of 0.75 to 0.98 (Hoeppner et al., 2011).

Hypothesis testing used a non-parametric statistical approach (Distribution-free statistics) in the form of the Mann-Whitney, to see the difference in scores before treatment and after treatment in a group. Furthermore, descriptive analysis was conducted through the participant handbook, therapy evaluation sheet, observation sheet and Cognitive Behaviour Therapy checklist.

RESULTS AND DISCUSSION

This research aims to determine the effectiveness of implementing CBT to improve the abstinence self-efficacy of drug addicts, univariate and bivariate analysis tests were carried out. Univariate analysis tests were carried out to determine differences in respondents' characteristics based on age group, gender, and education level before and after CBT was given. Before carrying out univariate and bivariate data analysis, the researcher first carried out a data normality test as a prerequisite for testing assumptions. Based on the data obtained, the data is normally distributed with a p-value> 0.05. This shows that the data is normally distributed.

Univariate Test Results

For a description of the characteristics of research respondents based on age, gender, and level of education, the following data were obtained.

Table 3. Distribution Frequency is based on Age, Gender, and Education

Variable	f	%
Age		
Late Adolescence (17-25 years)	9	30
Adulthood (26-45 years)	16	53.3
Early Elderly (46-55 years)	5	16.7
Gender		
Man	28	93.3
Woman	2	6,7
Education		
Senior High School	17	56,7
	13	43.3

Based on the table above, it is known that the largest age category is in the early adulthood range, namely 16 people or 53.35%, the gender of most respondents is male, namely, 28 people or 93.3%, and the highest education level of respondents is at the senior secondary school (SMA) level, it was 17 people or 56.7%.

Table 4. Description of Self-Efficacy Before Intervention Both group

Category	Score Range	Amount	Percentage (%)
Low	$X \leq 31$	3	10
Currently	$31 < X < 43$	20	66.7
Tall	$X \geq 43$	7	23.3.

From Table 4. The highest result in the medium category was 66.7%, and the lowest was 10% in the low category.

Table 5. Description of Self-Efficacy After Intervention Both group

Category	Score Range	Amount	Percentage (%)
Low	X≤31	1	3.3
Currently	31<X<43	9	30
Tall	X≥43	20	66.7

From Table 5 Description of Self-Efficacy, the highest category is 66.7%, the lowest in the medium category, 30%

Bivariate Test Results

Based on comparison tests between measurement times carried out in each group, the following data were obtained.

Table 6. Comparative Analysis of Pre-Test Scores>< Control Group Post-Test

Variable		Mean	Sig*
Control Group Scores	Pre-Test	36.73	0.177
	Post-Test	38.93	

*) Independent sample t-test. There was no difference in pre-test and post-test scores in the control group

In the control group, there was no significant change in the values in the measurements before and after the intervention with a significance value of 0.177 (p>0.05). In the control group, there was no change in terms of behavioral and cognitive changes because no CBT intervention was given

Table 7. Comparative Analysis of Pre-Test Scores >< Intervention Group Post-Test

Variable		Mean Rank	Sig*
Intervention Group Scores	Pre-Test	8.00	0.001
	Post-Test	23.00	

*) Mann-Whitney test. There are differences in pre-test and post-test scores in the intervention group.

In the intervention group, there was a significant change in values in the measurements before and after the intervention with values significance of 0.001 (p<0.05). The data above means that the control group did not experience significant changes in the values of the two measurements. Meanwhile, in the intervention group, there was a significant change in scores from before to after treatment. This means that the change in score occurred due to the intervention factor, namely the provision of cognitive behavior therapy, and not due to other factors. Based on the comparison test between groups based on measurement time (pre-/post-test), the following data were obtained.

Table 8. Comparative Analysis of Pre-test Scores between the Intervention Group and the Control Group

Variable		Mean	Sig*
Pre-Test Score	Intervention	37.80	0.399
	Control	36.73	

*) Independent sample t test. There was no difference in pre-test scores between the intervention group and the control group

Based on Table 8, it is known that there was no significant difference in scores between the intervention group and the control group before the intervention was given with a significant value of 0.399 (p>0.05).

Table 9. Comparative Analysis of Post-test scores between the Intervention Group and the Control Group

Variable		Mean Rank	Sig*
Post-Test Score	Intervention	23.00	0.001
	Control	8.00.	

Based on Table 9, there was a significant change in the intervention group and control group after being given the intervention with a significance value of 0.001 (p<0.005). concluded there is no significant difference in the value pre-test from both groups. There is a significant difference in the post-test scores of the two groups. This means the intervention (treatment) given affects the respondent's score. The data obtained in Table 3 through univariate test results to determine the characteristics of respondents, most respondents' characteristics based on age were in the adult range (26-45 years) with 16 people or around 53.3%. The gender is males, 93.3% and educational levels are more senior high school education range, 56.7%. These findings indicate that adolescent girls are more likely to acknowledge and manage their negative emotions more openly than adolescent boys (Putra et al., 2023).

This is in line with previous research conducted by Ranal, et.al (2023), most age characteristics of addicts are in the adult age range at 72%. For gender, men dominant than women at 100%, and the highest level of education is at the high school level, 80% (Nurdiantami, et.al, 2023). One of the risk factors for becoming a drug addict is being productive during adulthood. that the age group with the highest occurrence is productive. The highest level of education is at the high school level, 47.70%, which is consistent with this study's finding that the highest range of education is at the high school or high school level (Bachtiar, 2021). Multiple studies demonstrate that men consume more drugs than women and that the individual's traits influence the various risk factors for addicts. However, research findings indicate that the proportion of women becoming drug addicts (BNN, 2023; Bachtiar, 2021).

The findings from tables 3, 4, 5, 6, 7 demonstrate that self-efficacy changes before and after intervention. This indicates a significant benefit to using cognitive-behavioral therapy to improve self-efficacy in NAPZA patients (p = 0.001). Meanwhile, the control group did not have a significant change with a significance value of 0.177, the change in self-efficacy score was caused by the intervention offered. Based on the data gathered from this research, demonstrated by the findings of the comparison between the two groups before the intervention was carried out, where the significance value was p = 0.399 there was no difference in self-efficacy between the control group and the intervention group before being given cognitive behavior therapy treatment, whereas after the measurement was carried out again after the intervention there was a change. The score between the two groups has a significance value of 0.001 which shows that the hypothesis is accepted, this cognitive behaviour therapy intervention is effective in increasing Self-Efficacy in drug addicts.

Success in implementing intervention in therapy in each session is an important factor for all respondents to develop insight in the intervention group so that they can identify problems in each respondent, by asking them to describe in detail their experiences from the time they began using drugs until they stopped and returned. Using it is impacted by a variety of variables, including internal aspects such as persons who are unable to control themselves and have incorrect views and beliefs about drugs specifically that most of them believe that using drugs is an escape from the troubles they are facing. Facing the most difficult situation in their lives that causes them to take drugs for the first time and then use drugs again (Moniz et al, 2022).

Respondents encounter challenges in various conditions, However, it might be determined that the problems develop due to incorrect thinking and irrational *beliefs which* are almost the same, namely that respondents believe that by using NAPZA the respondent can forget about the problems they are facing so that NAPZA is considered as an escape to overcome problems. Even though they realize that the effects they feel from drug abuse are only momentary, and their need continues to increase to achieve the desired results, this makes them experience addictive behavior that is difficult to end (Nikmanesh et al, 2017).

In the next session, respondents were asked to recognize and realize what made this happen in their thoughts, feelings, and the actions that followed. In this session, respondents were asked to share their experiences and researchers explored them by activating and empowering respondents to think together about whether their experiences had positive or negative consequences in the form of a checklist. Here respondents are invited to consider the impacts obtained (Nakao, 2021). Respondents were asked to test their negative thoughts by providing challenges according to the reality of their experiences so far until they finally realized that these negative thoughts were something that was not true and found an alternative, more rational thoughts as a form of coping skills possessed by respondents (Nakao, 2021; Mousali et al, 2021). Education about understanding automatic thoughts and feelings that arise can improve the respondent's ability to control himself so that if he is faced with a difficult situation, returning to drug use can help him overcome it. Individuals who have a sense of

empathy tend to find it easier to control anger and have high concern and understanding for others (Ramadhanti, et.al.2023).

This education is provided to restructure wrong thoughts (*irrational beliefs)* for respondents, this is related to the cognitive abilities possessed by each respondent, although, from the data obtained based on different levels of education of the respondents, there is no significant difference based on the respondent's level of education in their Self-Efficacy scores (Hernanto et al, 2021). After respondents were taught to restructure their thoughts, in the next session they were taught coping skills and techniques which aimed to improve their ability to find solutions to various problems that might occur in the future. Efforts to control oneself are strengthened by realizing one's abilities based on an analysis of positive experiences in one's life so that when faced with difficult situations one is confident and able to overcome them. Effective coping skills techniques for increasing Abstinence Self-Efficacy. Self-efficacy has an important role in determining someone's relapse. Based on research results by Nikmanesh et al, 2017).

Self-efficacy A high level can make someone persist and not relapse for at least twelve months after follow-up. Someone who has Self-Efficacy those who are high will have more ability to control themselves in overcoming difficult situations. Furthermore, having high self-efficacy can enable someone to stop being dependent on drugs. Self-efficacy can create motivation within an individual to stop drug dependence (Moniz-Lewis, 2022). Cognitive process that involves a person's assessment of his or her abilities which will then influence his or her behaviour and results. Self-efficacy is specific to a particular situation and not general like self-confidence. Referring to Bandura's theory (Ratih, 2019). Defines Self-Efficacy as a sense of empowerment, a sense of capability, and the ability that an individual has to behave following certain conditions. Self-efficacy has a very important role in determining a person's behavior in the future. The social support obtained will also increase a person's self-efficacy to be able to survive through the difficulties they face. The family has a very big role in providing the best support system for addicts apart from the individual factors themselves. Efforts to prevent drug abuse are still not optimal and require appropriate strategies for programs and activities in the fields of prevention, treatment, empowerment, and rehabilitation (Brick, 2012; Hernanto et al, 2021).

The application of CBT in groups of productive age and measures differences in self-efficacy as an outcome score related to relapse rates. This study examines the application of CBT in groups of productive age and measures differences in self-efficacy as an outcome score related to relapse rates. Previous studies have emphasized behavioral therapy, whereas in this study self-efficacy plays an important role in motivation and resilience in behavior change by focusing on thinking skills related to belief in one's ability to overcome difficulties. The higher the self-efficacy score, the lower the relapse rate, because high confidence in one's ability, it motivates him to be able to survive and face various obstacles in the difficulties he faces.

The research results obtained were limited in terms of the implementation time of the cognitive behaviour therapy intervention, which was only carried out in 3 months in several group sessions among drug-addicted respondents in the rehabilitation center, which did not necessarily guarantee the persistence of the behaviour expected to truly recover and not experience a relapse. It takes a minimum of 12 months to monitor the results of this intervention. So, it is hoped that the policy of the rehabilitation program manager will continue to implement the program regularly with intensive evaluation to maximize the success of the intervention program being carried out.

CONCLUSION

Based on the results of research obtained CBT is effective in improving self-efficacy abstinence in drug addicts present in the Bahri Nusantara Foundation (BANTARA) Indonesia with a significance value of p=0.001. There was a significant difference between the two groups before and after the intervention with a value of 0.001. Different factors cause recurrence in addictions due to the presence of irrational beliefs about drugs, considering it can be an escape from the problems experienced and lack of self-control in the face of difficult situations in their lives. Cognitive behavioral interventions are effective in improving self-efficacy in the intervention group with significant changes in scores before and after intervention.

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A short paragraph specifying their individual contributions must be provided for research articles with several authors. The following statements should be used "Conceptualization, Meri Susanti.; Methodology Software, Validation, Meri Susanti, Ira Aini Dania; Formal Analysis, Meri Susanti; Investigation, Meri Susanti and Ira Aini Dania; Resources, Meri Susanti and Ira Aini Dania; Data Curation, Meri Susanti, and Ira Aini Dania; Writing – Original Draft Preparation, Meri Susanti Writing – Review & Editing, Ira Aini Dania; Visualization, Ira Aini Dania; Project Administration, Meri Susanti and Ira Aini Dania; Folrante Ibarra Methodology Software, Writing – Review & Editing. Funding Faculty of Medicine Universitas Islam Sumatera Utara."

CONFLICTS OF INTEREST

The author(s) declare no conflict of interest.

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