

## **The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients**

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**Abstract:** Dialectical Behavioral Therapy (DBT) has been found to be effective managing anxiety symptoms and emotional regulation difficulties of drug addict patients. **Purpose:** to evaluate the effect of a dialectical behavioral therapy on anxiety level and emotional regulation among drug addict patients. **Design:** A quasi-experimental research design two groups (study and control group pre/posttest) was used to achieve the study purpose. **Setting:** the study was conducted at the drug addiction department of Meet-Khalaf Hospital, Menoufia Governorate, Egypt. **Sample:** A purposive sample of 80 drug addicted patients who attend inpatient in the psychiatric and Addiction Treatment Hospital in Meet-Khalaf, Shebin El-kom City, Menoufia Governorate, Egypt. **Instruments:** The data was collected using Structured interview questionnaire, Depression, Anxiety and Stress Scale-Anxiety (DASS-A -7), Emotion Regulation Scale. **Results:** there was a statistically significant reduction in anxiety symptoms in the study group after the therapy, 45% reporting no anxiety symptoms and 55% reporting mild anxiety level compared with before the therapy, 32.50% of the study group reported mild anxiety level and 62.5% experienced moderate anxiety level. There was a statistically significant improvement in the study group's emotional regulation levels after dialectical behavior therapy; 75% reporting satisfactory emotional regulation as compared to before the therapy. There was a statistically significant negative correlation between total anxiety mean score and total emotional regulation mean score of the study group after dialectical behavioral therapy; where p value ( $p = 0.006$ ). **Conclusion:** The dialectical behavioral therapy has a positive effect on reducing anxiety level and improving emotional regulation level among drug addict patients. **Recommendation:** Dialectical Behavior Therapy can be an effective treatment option for individuals struggling with drug addiction because it provides tools and strategies to help them manage the underlying emotions and behaviors that contribute to substance abuse.

**Keywords:** Anxiety, Dialectical behavioral therapy, Drug addict patient, Emotional regulation.

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

## **Introduction**

Drug addiction is a chronic, progressive and devastating disease that not only causes the death of drug addicts themselves but also hurts their families as well as society in general (Ebrahim et al., 2020). It presented huge challenges to social governance and public safety (Bachi et al., 2017). The brain's neural connections that regulate reward, mood, well-being, pleasure, learning, memory, and the ability to suppress undesired urges are affected by drug addiction (WHO, 2018). Drug addiction is the most prevalent disease in the world, over eleven million individuals are dependent on drugs, with almost half having hepatitis C (World Drug Report, 2021).

Patients who are drug addicts experience abrupt changes in their mental and psychological states, such as anxiety. Anxiety levels increase for a person if they stop using the drug, which can lead to physical dependence and severe addiction. That is the most common difficulty reported by users searching for a drug addiction recovery, even after withdrawal from an addictive substance and remission of anxiety symptoms (Robichaud et al., 2019). Drug addiction and anxiety are interrelated, and individuals who have one illness are more likely to also have the other. Generalized anxiety disorder (GAD), panic disorder, and agoraphobia are the mental illnesses most likely to be accompanied by substance use disorders (SUDs). Individuals with anxiety and an SUD are more likely to struggle with treatment adherence, discontinue early, experience worse outcomes, and have worse symptoms. Both marijuana and stimulants raise heart rates, which can mimic the physical signs of anxiety and potentially exacerbate anxious thoughts. Cocaine and

methamphetamine are stimulants that can significantly worsen anxiety. More than one fourth of people who use methamphetamine are also diagnosed with anxiety disorders (Stoner, 2017).

Individuals with substance use disorders (SUDs) are more than twice more likely to develop mood disorders than those without SUDs. This increased liability to mood disorders that may be due to chronic drug-induced alterations in the brain's stress- and emotion-related circuits. Individuals with SUDs also demonstrate a reduced ability to regulate negative moods compared to healthy adults (Garke, et al., 2021).

Prosek, et al., (2018) explored the relationship between mental health and emotional regulation among illicit substance users. Illicit drug users reported higher levels of depression and anxiety symptoms. Emotional dysregulation was more prominent in illicit drug users in the sense that they had less clarity and were less aware of their emotions when the emotions were occurring.

## **Significance of the study**

Drug abuse has increased dramatically in Egypt during the last few years. Almost 9 million Egyptians, or a startling 10% of the population, take narcotics, according to the minister of social solidarity in Egypt. Similarly, it was noted that the most frequently abused substance appeared to be the painkiller tramadol, which is illegal to consume in Egypt without a prescription. This was followed by heroin (addiction rate: 26%) and cannabis (addiction rate : 23.3%) (Mneimneh, 2018).

EL-Hamady, et al .,(2020) conducted research about "Prevalence of Anxiety Disorders in Substance Related Disorder"; they founded that the

## *The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

prevalence of anxiety among drug addict patients estimated that 70.5% of the studied substance abusers suffered from anxiety disorders. 33% of studied subject have mild anxiety, 18.5% of them have moderate anxiety and severe anxiety was found in 19% of the studied cases, according to the clinical assessment of the anxiety. Anxiety is prevalent in drug addict patients and is associated with lower quality of life, dysfunctional family and individual relationships, and detrimental psychological effects. Even if the number of drug users has increased recently, there isn't enough research regarding how to control anxiety symptoms, regulate emotions, and avoid other negative effects in Egypt.

### **Methods**

#### **Purpose of the study**

The purpose of the study was to evaluate the effect of a dialectical behavioral therapy on anxiety level and emotional regulation among drug addict patients

#### **Design**

A quasi-experimental research design two groups (study and control group pre/ posttest) was used to achieve the study purpose.

#### **Hypotheses**

- The patients who participate in dialectical behavioral therapy (study group) will have lower mean scores of anxiety after implementation of the therapy than patients who don't participate (control group).
- The patients who participate in dialectical behavioral therapy (study group) will have higher mean scores of emotional regulation after implementation of the therapy than patients who don't participate (control group).

### **Setting**

This study was conducted at the drug addiction department of Meet-Khalaf Hospital, Menoufia Governorate, Egypt.

### **Subjects**

A purposive sample of 80 drug addicted patients who attend inpatient in the psychiatric and Addiction Treatment Hospital in Meet-Khalaf, Shebin El-kom City, Menoufia Governorate, Egypt. The sample size was obtained using the following formula:

$$n = [DEFF * Np(1-p)] / [(d^2 / Z^2_{1-\alpha/2} * (N-1) + p * (1-p))]$$

- (n) = Sample Size
- DEFF = Design effect (for cluster surveys-DEFF): (1.5)
- d= Confidence level (95%)
- N = Population size
- P = margin of error (0.05).

Thus, a total estimated sample of 80 participants was randomly split into two equal groups, each with 40 participants (the study group and the control group).

### **Inclusion Criteria**

These inclusion criteria were used to choose those patients: Men's aged 20 to 50 who are willing to engage in the study and being oriented.

### **Exclusion Criteria**

Patients suffering from major neurological or mental disorders, as well as those with a history of chronic physical illness, were excluded

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

**Instruments of the Study**

**Instrument One: Structured**

**interview questionnaire: -**

It is designed by the researcher to assess the patients' socio-demographic characteristics and disease history as age, sex, occupation, marital state. In addition to comprehensive mental history including the onset, course, duration, and existence of substance misuse risk factors, family history admission to psychiatric hospital and prescription of medications was done. ....etc.

**Instrument Two: Depression, Anxiety and Stress Scale-Anxiety (DASS-A -7);**

It is taken from Depression, Anxiety, and Stress Scale, which developed by Lovibond & Lovibond, (1995). The DASS consists of 21 items, is a self-report screening tool which measures the frequency of behaviors or intensity of feelings based on three subscales; anxiety (DASS-A) 7 items, depression (DASS-D) 7 items and stress (DASS-S) 7 items. A DASS total score computed from the three subscales. Scores of items rated on a three point scale (i.e., from 0 = "never" to 2 = always"). Higher scores indicate higher degrees of depression, anxiety and stress. In this study, the researcher used anxiety self-reported subscale. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious effect. Researcher calculated the score for anxiety by summing the scores for the relevant items. A higher score indicates negative emotional status. NB Scores on the (DASS-A -7) will need to be multiplied by 2 to calculate the final score. Anxiety scoring comprises normal (0–7), mild

(8–9), moderate (10–14), severe (15–19), and extremely severe (20+).

**Instrument three: Emotion**

**Regulation Scale:**

This questionnaire was designed by Gross and John,(2003) based on the process model of ER. The ERQ is a 10-item self-report questionnaire, designed to measure the use of two ER strategies: an antecedent focused strategy called cognitive reappraisal (6 items) where an individual attempts to change how they consider a situation to change its emotional impact; a response-focused strategy, called expressive suppression (4 items), where a subject attempts to inhibit the behavioral expression of their emotions. The two subscales can be scored separately; Respondents answer each item on a 3-point Likert-type scale ranging from 0 (disagree) to 2 (agree).

**Instruments Reliability:**

The internal consistency of the questionnaire was calculated using Cronbach's alpha coefficients. The reliability of the instrument was done using test - retest reliability and proved to be strongly reliable at 0.85 for Depression, Anxiety and Stress instrument and at 0.90 for Emotion Regulation instrument.

**Instruments Validity**

The data collection instruments were tested for content validity by a jury of five experts in the field specialty of psychiatric mental health nursing, psychiatric medicine, community nursing, and psychologist to ascertain the relevance, coverage of the content and clarity of the questions. The instruments were approved to be valid following the judgment of the experts.

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

**Data Collection Method**

**Administrative approval:**

An official letter was issued from the dean of Menoufia University's nursing faculty, then sent to the head of Meet Khalaf Psychiatric Hospital's, Shebin Elkom after explanation of the aim of the study to get the permission.

**Ethical considerations:**

Ethical approval was attained from The Menoufia University Faculty of Nursing's ethical research committee. The patients were informed that participation in this study was voluntary and that they had the right to participate in the study and the right to withdraw from the study at any time. Informed consent was obtained from the participants after explaining the purpose of the study and assuring maintaining the anonymity and confidentiality of the subjects' data.

**Pilot study:**

A pilot study was conducted on eight patients, representing 10% of the overall sample, to determine the time required to finish the questionnaire and to assess the tools' clarity and applicability. The pilot study sample was omitted from the total study sample. Based on the findings of the pilot study, some questions were modified and clarified as needed.

**Data collection procedure:**

The dialectical behavioral therapy was applied through five months in the period from the beginning of September 2022 to the end of January 2023. The entire participants who meet the inclusion criteria were involved in this study, the study subjects (80 patients) were divided randomly into two equal groups (study and control group). The control group (40) who don't participate in dialectical

behavioral therapy and the study group (40) who participate in dialectical behavioral therapy. The study group (40 patients) were divided into 4 large groups each group contain 10 patients, each group attends thirteen sessions, every session takes approximately 60 to 90 minutes. The researcher meets each group one day per week from 10 AM to 11.30 AM. After completing application of dialectical behavioral therapy sessions, a posttest was carried out immediately after the intervention sessions and two months later of follow-up. Application of the study passed into three stages (assessment phase, implementation, and evaluation phases).

▪ **Phase (1): Assessment phase: -**

Once the permission was obtained to continue this proposed study. A comfortable, private place was chosen for the interviewers. Orientation was done about the purpose of the study and content of the study. Assessment was done using the study's tools on 80 patients. Then they were randomly assigned to two equal groups' one study group and the other was control group using coin tossing.

▪ **Phase (2): The implementation phase: -**

The researchers introduced themselves to the study group and informed them that they will attend 13 sessions which distributed as the following (12 sessions) within three months (one days/week), and one session after 2 months of follow-up to evaluate the effectiveness of the therapy. This was achieved by using a variety of learning strategies, including lectures, seminars, brain storming, and demonstrations, re-demonstrations, examples, and modeling to facilitate explanation and to be a reference for them. At the end of each session, summary, feedback,

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

further clarifications were done for vague items and the researcher give the parents homework.

### **Dialectical behavior therapy**

#### **Description**

➤ **Session 1: Introduction and orientation**

Orienting the patients that the therapy sessions include totally 13 sessions which distributed as (12 sessions within three months; One session every week, for 60-90 minutes) and one session 2-month after intervention therapy. The following rules must be followed by the patients who agreed to participate in the therapy: confirming the privacy and confidentiality of research information, commitment to session dates and times, avoiding interruptions while others are speaking, avoiding sarcasm about other people's opinions, and performing necessary activities during each session. The pretest was done to them using a structured interviewing questionnaire, Anxiety Scale , emotional regulation scale (pre intervention assessment).

➤ **Session 2: overview of drug addiction**

It focused on providing a detailed explanation about the concept and, symptoms of drug addiction and complications caused by drug addiction.

➤ **Session 3: Relaxation training**

The researchers demonstrated deep breathing exercise& muscle relaxation steps in front of the patients. The researchers displayed images that demonstrate how to practice these steps again. Then, the researchers acted as a model to illustrate steps of these exercises in front of patients.

➤ **Session (4): Identify and practice mindfulness**

The researchers provided a detailed explanation about steps of mindfulness which includes (1) Pay attention, (2) Live in the moment, (3) Accept yourself by Identifying your strengths, (4) focus on your breathing, (5) Mindful meditation.

➤ **Session (5): pleasant activities**

Explain to patients how to engage in enjoyable activities that are easy to do, inexpensive, and don't take a lot of effort and inform patients to change this activity every 3 months to avoid a routinely pattern which lose what it brings the feelings of happiness, enthusiasm and enjoyment. The researchers displayed pictures of enjoyable activities that illustrate how to practice pleasant activities.

➤ **Session (6): apply acceptance and change skills**

The researchers provided a detailed description of how to apply acceptance and change skills, including mindfulness, commitment to actions, attention to one's own values and traits, and taking serious, effective action to change one's behavior while learning to accept painful experiences.

➤ **Session (7): emotion regulation skill emotional venting skills**

The researchers provide a detailed explanation about steps of regulating emotions such as: (Be aware of your emotions and reactions ,Express your feelings in appropriate ways, Think before you act ,Manage stress, Strive for balance, Take care of your physical health, Stay positive). Explain steps of emotional venting such as release emotion in acceptable way through playing sports, telling your story& breathing exercise.

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

➤ **Session (8): interpersonal effectiveness (interacting with others)skills**

The researcher provided a detailed explanation about the interacting with others and its skills such as: (1) Always do new things, (2) Think of what to say. (3) Make time to socialize and smile. (4) Avoid giving short responses. (5) Lead the conversation and ask better questions.

➤ **Session (9): Distress tolerance skill:**

The researchers provided a detailed explanation about distress tolerance skills. The distress tolerance skills are valuable tools in helping individuals maintain balance in the face of crises, teaching them to accept the distress and cope with it in healthier ways. By practicing the skills of distracting, self-soothing, improving the moment, and focusing on pros and cons, clients can weather stressful circumstances.

➤ **Session (10): Dialectical dialogue & logical persuasion skills**

The researchers demonstrated steps of dialectical dialogue & logical persuasion skills such as maintain the continuity of the conversation, active listening, show interest, also the researchers explain steps of applying logical persuasion such as 1-convincing the patient that he is responsible for his problems and way of thinking 2-replace irrational thoughts with rational ones 3-reconstruct cognitive concepts and then change his self-talk.

➤ **Session (11): problem solving skills& fun and humor skill**

It concerned with provided a detailed explanation about problem solving skills and various techniques to help participants to solve problems.

➤ **Session (12): Post Assessment Phase**

The researchers appreciated all subjects for presence and completing the sessions. The post- test was given to them to evaluate dialectical behavioral therapy effectiveness using Anxiety Scale and emotional regulation scale.

➤ **Session(13):final session for follow-up -test (2month interval between post test and follow –up)**

The researchers welcomed all participants and appreciated them for attendance. A follow-up test was conducted using Anxiety Scale and emotional regulation scale to evaluate the effectiveness of dialectical behavioral therapy on anxiety and emotional regulation (assess the achievement of the aim of the study).

**Data Processing and Analysis**

Data were collected, tabulated, statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 20. Data was entered and analyzed using Statistical Package of Social Science (SPSS) version 20. Quantitative data were presented in the form of mean ( $\bar{X}$ ), standard deviation (SD), and qualitative data were presented in the form numbers and percentages. Chi-square test ( $\chi^2$ ), Fischer exact test, Pearson correlation (r) were used to find out the possible association between studied factors and the targeted disease.  $P < 0.05$  was considered statistically significant and  $P$  value  $< 0.001$  was highly significant while  $P > 0.05$  indicated non-significant.

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

**Results**

**Table (1):-** reveals that the control and study group's mean ages are (31.2±5.25, 31.1±4.99 respectively). In terms of marital status, both the study group (50%) and the control group (45%) are married. As regards education, 32% of the control group and 25% of the study group both have middle certification, while 25% of study group have preparatory education. Concerning the occupational status, (40.0% and 50.0%, respectively) of both the control group and the study group did not work. Regarding the economic level, the control and study groups' economic levels (50% and 47.5%, respectively) are average.

**Table (2):** clarifies that before therapy, 75%; 70% of the study and control groups respectively said that they were constantly aware of the dryness in their mouths. Also, 92.5% of the study; 80% of control groups reported that they sometimes experiencing breathing difficulties (e.g excessively rapid breathing) in the absence of physical exertion. Moreover, 67.5% of study group; 67.5% of control group both said they sometimes experiencing trembling (e.g in the hands). Furthermore, 70% of study group; 70% of control group both said that they always found themselves getting agitated. Also 67.5% of study group and 70.0% of control group both reported that they were always felt down hearted and blue, both the study group (62.5%) and the control group (65%) stated that they sometimes experience panic-like symptoms. Also, both the study group (55.0%) and the control group (42.5%) reported that they were always aware of the activity of their hearts despite the absence of physical effort. Moreover, there is no statistical difference between study and control group regarding anxiety

symptoms before dialectical behavior therapy.

**Figure(1):** clarifies that, after the therapy, there was a statistically significant reduction in anxiety symptoms among the study group, with 45% reporting no anxiety symptoms and 55% reporting mild anxiety level. In contrast to before the therapy, 32.50% of the study group reported mild anxiety level and 62.5% experienced moderate anxiety level. Additionally, there was a statistically significant decrease in the study group's anxiety level at the therapy's 2 months follow-up, with 37.5% reporting no anxiety symptoms and 62.50% reporting mild anxiety level, as contrasting to before the therapy, 32.50% of the study group had mild anxiety level and 62.5% had moderate anxiety level.

**Table (3):** indicates that there is no statistical significant difference between study and control group regarding all items of emotional experience before dialectical behavior therapy.

**Table (4):** displays that there is no statistical significant difference between study and control group regarding all items of emotional expression before dialectical behavior therapy.

**Figure(2):** displays that, after therapy, there was a statistically significant improvement in the study group's emotional regulation levels; 75% reporting satisfactory emotional regulation as compared to before the therapy only 20% of the study group reported satisfactory emotional regulation level. Additionally, there was a statistically significant improvement in the study group's emotional regulation level at the therapy's 2 months follow-up; 72.50% reporting satisfactory emotional regulation, as contrasting to before the

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

therapy only 20% of the study group reported satisfactory emotional regulation.

**Table(5):** shows that there is a statistically significant negative correlation between total anxiety mean

score and total emotional regulation mean score among the study group after dialectical behavioral therapy; where p value ( $p = 0.006$ ); mean that when emotional regulation increase, anxiety level will decrease.

**Table (1): Distribution of the studied subjects according to their demographic characteristics (N =40 for each).**

Studied variables	Control group N=40		Study group N= 40	
	No.	%	No.	%
<b>Age / years</b>				
Mean±SD	31.2±5.25		31.1±4.99	
Range	22.0 – 45.0		22.0 – 40.0	
<b>Marital state</b>				
Unmarried	18	45.0	13	32.5
Married	16	40.0	20	50.0
divorced	6	15.0	7	17.5
<b>Educational level</b>				
Illiterate	3	7.50	3	7.50
Read and write	4	10.0	4	10.0
Primary	9	22.5	9	22.5
Preparatory	10	25.0	10	25.0
Middle certification	13	32.5	10	25.0
University or more	1	2.50	4	10.0
<b>Occupation</b>				
Works	24	60.0	20	50.0
Doesn't work	16	40.0	20	50.0
<b>Economic level</b>				
Low	18	45.0	19	47.5
Average	20	50.0	19	47.5
High	2	5.00	2	5.00

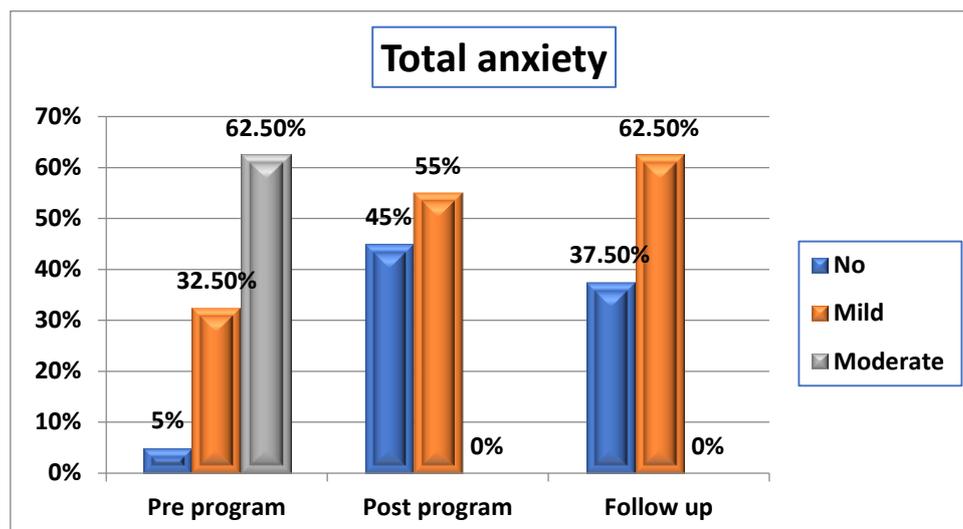
***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

**Table (2): Distribution of anxiety symptoms in the study and control group before therapy (N=40 for each).**

Studied variables		before therapy				X <sup>2</sup>	P value
		Study group (n=40)		Control group (n=40)			
		No.	%	No.	%		
I was aware of dryness of my mouth	Never	0	0.00	0	0.00	0.251	0.617
	Sometimes	10	25.0	12	30.0		
	Always	30	75.0	28	70.00		
I experience breathing difficulty (e.g excessively rapid breathing, breath lessness in the absence of physical exertion)	Never	0	0.00	1	2.50	2.96	0.227
	Sometimes	37	92.5	32	80.0		
	Always	3	7.50	7	17.5		
I experienced trembling (e.g in the hands)	Never	5	12.5	6	15.0	0.158	0.924
	Sometimes	27	67.5	27	67.5		
	Always	8	20.0	7	17.5		
I found myself getting agitated	Never	1	2.50	0	0.00	1.04	0.593
	Sometimes	11	27.5	12	30.0		
	Always	28	70.0	28	70.0		
I felt down hearted and blue	Never	0	0.00	0	0.00	0.058	0.809
	Sometimes	13	32.5	12	30.0		
	Always	17	67.5	28	70.0		
I felt I was close to panic	Never	2	5.00	2	5.00	0.060	0.971
	Sometimes	25	62.5	26	65.0		
	Always	13	32.5	12	30.0		
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat.	Never	0	0.00	0	0.00	1.25	0.263
	Sometimes	18	45.0	23	57.5		
	Always	22	55.0	17	42.5		

X<sup>2</sup>: Chi squared test

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*



**Figure (1); Anxiety levels among the study group at pre, post and 2 months follow up therapy.**

**Table (3): Emotional experience among the study and control group before therapy (N=80).**

Studied variables		Before therapy				X <sup>2</sup>	P value
		Study group (n=40)		Control group (n=40)			
		No.	%	No.	%		
When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about	Disagree	24	60.0	28.	70.0	0.879	0.348
	Neutral	16	40.0	12	30.0		
	Agree	0	0.00	0	0.00		
When I want to feel less negative emotion(such as sadness or anger), I change what I'm thinking about	Disagree	7	17.5	9	22.5	1.51	0.468
	Neutral	32	80.0	28	70.0		
	Agree	1	2.50	3	7.50		
When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm	Disagree	31	77.5	35	87.5	1.39	0.498
	Neutral	7	17.5	4	10.0		
	Agree	2	5.00	1	2.50		
When I want to feel more positive emotion, I change the way I'm thinking about the situation	Disagree	22	55.0	16	40.0	2.82	0.243
	Neutral	10	25.0	17	42.5		
	Agree	8	20.0	7	17.5		
I control my emotions by changing the way I think about the situation I'm in.	Disagree	26	65.0	24	60.0	0.223	0.895
	Neutral	13	32.5	15	37.5		
	Agree	1	2.50	1	2.50		
When I want to feel less negative emotion, I change the way I'm thinking about the situation.	Disagree	21	52.5	18	45.0	0.450	0.502
	Neutral	19	47.5	22	55.0		
	Agree	0	0.00	0	0.00		

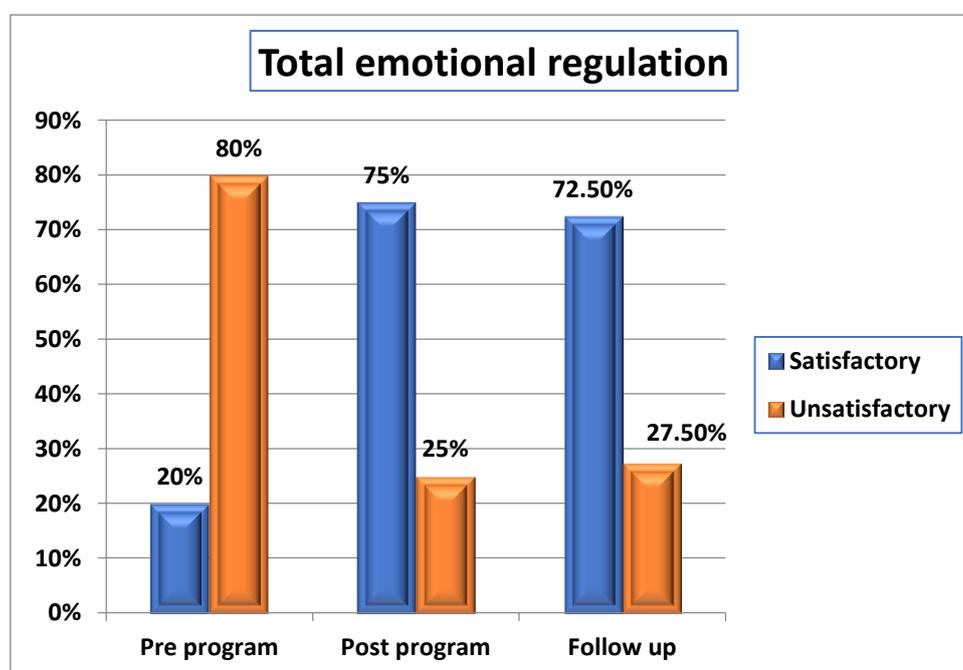
X<sup>2</sup>: Chi squared test

*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

**Table (4): Emotional expression among the study and control group before therapy (N=40 for each).**

Studied variables		Before therapy				X2	P value
		Study group (n=40)		Control group (n=40)			
		No.	%	No.	%		
I keep my emotions to myself	Disagree	26	65.0	30	75.0	1.28	0.526
	Neutral	10	25.0	6	15.0		
	Agree	4	10.0	4	10.0		
When I am feeling positive emotions, I am careful not to express them	Disagree	31	77.5	27	67.5	1.07	0.583
	Neutral	5	12.5	8	20.0		
	Agree	4	10.0	5	12.5		
I control my emotions by not expressing them	Disagree	25	62.5	29	72.5	5.01	0.081
	Neutral	8	20.0	10	25.0		
	Agree	7	17.5	1	2.50		
When I am feeling negative emotions, I make sure not to express them	Disagree	25	62.5	26	65.0	1.82	0.403
	Neutral	12	30.0	8	20.0		
	Agree	3	7.50	6	15.0		

X2: Chi squared test



**Figure (2) Total means score of emotional regulation among the study group at pre, post and follow up the therapy.**

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

**Table (5): Correlation between total anxiety mean score and total emotional regulation mean score among the study group after therapy (N=40):**

Studied variables	Total anxiety score	
	R	P value
Total emotional regulation score	-0.426	0.006*

r: Spearman's correlation \*Significant

**Discussion**

Addiction is one of the social phenomena that both developing countries and advanced societies confront; it affects people of all classes and ages, especially among adolescents and young adults (Jha & Singh, 2020). Drug addiction is considered to be a serious issue and one of the main causes of health, psychological, and social problems. It is a complex, chronic, and recurrent brain disease that includes drug use and drug-induced compulsive seeking behavior, the increasing trend of drug abuse, especially among young people, is of great concern to the family and society as a whole (Shakeri, et.,al, 2020 ). Dialectical Behavioral Therapy is an important treatment approach for drug addict patients with anxiety and emotional regulation issues because it provides them with the tools and skills to manage their emotions and cope with stressors in a healthy way. It also helps patients cultivate mindfulness and self-awareness, which can help them identify patterns of negative thinking and behavior that contribute to their addiction. Therefore, the purpose of this study was to evaluate the effect of a dialectical behavioral therapy on anxiety level and emotional regulation among drug addict patients. The result of the current study revealed that there is no statistically significant difference between the control and study groups' mean ages, which were respectively 31.25.25 and 31.14.99.

Less than half of the control group and half of the study group were married, respectively. In regarding education, one-fourth of the study group has preparatory education, while one-fourth of the control group and one-fourth of the study group each have middle certification. Less than half of those in the control group and half of those in the study group, respectively, were unemployed. Half of the control group and less than half of the study group were on average in terms of economic status.

Concerning anxiety symptoms before the intervention the current study revealed that three quarter of study group and less than three quarter of control group reported that they were constantly aware of the dryness in their mouths. Also, the majority of both the study group and the control group reported that they sometimes experiencing breathing difficulties (e.g excessively rapid breathing) in the absence of physical exertion. Moreover, above two thirds of both study and control group said that they sometimes experiencing trembling (e.g in the hands). Additionally, less than three quarter of both the study and control group reported that they always found themselves getting agitated. Also more than two thirds of study and control group both reported that they were always felt down hearted and blue, whereas less than two thirds of study and control group stated that

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

they sometimes experience panic-like symptoms. Furthermore, more than half of the study group and less than half of the control group reported that they were always aware of the activity of their hearts despite the absence of physical effort. This finding could be as a result of the chemical imbalances in the brain caused by drug use and addiction, which elevate levels of anxiety and stress. Drug addiction can also lead to social, financial, and legal issues, all of which can increase the symptoms of anxiety. Similarly, withdrawal from some drugs, such as opioids or benzodiazepines, can result in anxiety symptoms like panic attacks, agitation, and restlessness. Anxiety symptoms can develop as a result of drug addiction, and they may continue long after the person stops using drugs. Moreover, the current study revealed that there was no statistical difference between study and control group regarding anxiety symptoms before dialectical behavior therapy; indicating that randomization was effective because both the study and control groups fulfilled the same criteria and composed a homogeneous sample. These results were consistent with studies by Farman, et al. (2015) and Urao, et al. (2018) found no differences in anxiety levels between the study group and the control group. The current study revealed that after the dialectical behavior therapy there was a statistically significant reduction in anxiety symptoms among the study group, with less than half reported no anxiety symptoms and more than half reported mild anxiety level as compared with before the therapy, less than one third of the study group reported mild anxiety level and less than two thirds experienced moderate anxiety level. Additionally, there was a statistically significant decrease in the study group's anxiety level at the

therapy's 2 months follow-up, with more than one third reported no anxiety symptoms and less than two thirds reported mild anxiety level, as compared to before the therapy, where approximately one third of the study group had mild anxiety level and less than two thirds had moderate anxiety level ; this may be due to the effect of therapy session, techniques and skills that patients apply through dialectical behavioral training. As skills of listening to patients , relaxation techniques such as deep breathing exercise, progressive muscle relaxation and meditation effects on reducing muscle tension, emotional distress and improving psychological wellbeing, this decrease anxiety and its negative consequences for patients. This finding was supported by Alizadehfard's 2019 study, "The Efficacy of Dialectical Behavior Therapy on Depression, Stress, Anxiety and Symptoms of Migraine," which found a significant decrease in anxiety at the post-intervention phase ( $p=.000$ ). Similar findings were found in the study "The Effect of Dialectical Behavior Therapy-Based Intervention on the Psychological Impacts of Covid-19 among Internship Nursing Students" by Abd El-Wahab, et al. in 2022. This study revealed that anxiety was lower following the intervention than it was prior to it. Similar results were reported by Luo, et al. in 2021, who proved that dialectical behavior therapy can successfully decrease anxiety after an intervention. Additionally, in a study titled "The Efficiency of Emotion Regulation and Distress Tolerance Based on Dialectical Behavior Therapy on Anxiety Sensitivity and Emotion Regulation Difficulties in Women with Irritable Bowel," Sehati et al. (2019) found a statistically significant difference between the study and

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

control group in the mean score of anxiety.

According to the current study's findings, there was no statistically significant difference in any aspect of the participants' emotional experiences before dialectical behavioral therapy between the study group and the control group; this might be because the baseline emotional experiences of the study and control groups were highly similar, with little to no change, before they started the therapy. This finding was consistent with Sepehri, et al. (2016) who examined the efficacy of dialectical behavior therapy (DBT) techniques on Improving Cognitive Emotion Regulation Strategies in Women with MS" and found no statistically significant difference between the study and control group emotional experience mean scores. Moreover, Elizabeth and Herring (2020) examined the "Impact of Mindfulness Training on Daily Use of Emotion Control Strategies in Multiple Sclerosis" and found no statistically significant difference between the emotional experiences of the experimental and control groups.

The present study revealed that there was no statistically significant difference between the study and control groups regarding any aspect of emotional expression before beginning dialectical behavior therapy for either group. This may be because emotional expression levels were identical in both the study and control groups prior to therapy. This finding was in line with Montazernia, et al study 's conducted in 2021, "Comparing The Efficacy of Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy Skills Training (DBT-ST) on Cognitive Emotion Regulation in Patients with Type II Diabetes" which found no statistically significant difference between the study group and

the control group in terms of the mean score of emotional expression.

The existing study revealed that after the dialectical behavior therapy there was a statistically significant improvement in the study group's emotional regulation levels; with three quarter of them reported satisfactory emotional regulation as compared to before the therapy less than one quarter of the study group reported satisfactory emotional regulation level. Additionally, there was a statistically significant improvement in the study group's emotional regulation level at the therapy's 2 months follow-up; less than three quarter reported satisfactory emotional regulation, as compared with before the therapy less than one quarter of the study group reported satisfactory emotional regulation. This may be because dialectical behavior therapy, a form of psychotherapy, attempts to teach patients how to control their emotions, thoughts, and behavior. The therapy teaches individuals coping strategies and new ways of thinking to regulate their emotions and decrease impulsivity.

The existing study showed that there was a statistically significant difference in the study group's total emotional regulation mean score between before and after therapy, as well as between before and 2 months follow-up therapy; this may be due to that the therapy had a lasting effect on the participants' emotional regulation abilities. As well as, DBT involves a series of therapeutic techniques to help individuals cope with distressing emotions and develop effective communication and interpersonal skills. Through DBT, individuals can learn new strategies for regulating emotions, managing stress, and coping with challenging situations. The skills and techniques learned through DBT can be applied in everyday life, which

## *The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

can lead to long-term improvements in emotional functioning. Additionally, regular follow-up sessions can help reinforce these skills and provide ongoing support and guidance.

This outcome was consistent with Sehati et al(2019) 's findings, which showed that there was a highly statistically significant difference in the mean score for emotional regulation between study subjects and the control group following intervention. Also, Rezaie et al. (2021) investigated the "Effects of Dialectical Behavior Therapy on Emotion Regulation, Distress Tolerance, Craving, and Depression in Patients with Opioid Dependency Disorder." They concluded that there was significant improvement in emotional regulation in study group than a waitlist control group. Similarly, Fnoon,etal(2021) they reported that DBT patients showed better scores of emotion regulation post intervention in comparison to pre intervention. However, Mirahmadi and Hassani (2018) investigated "The Impact of Emotion Control Skills Training Based on Dialectical Behavior Therapy on Impulsivity in Substance Abusers." They revealed an increase in emotional regulation score following intervention, despite there is no statistically significant difference in total emotional regulation mean score of study group between after and follow up emotion control skills training ; This discrepancies might be because the follow-up period was not long enough to produce observable changes from post-intervention to follow-up. It is possible that the participants need more time to practice and internalize the skills they learned during the intervention.

The present study revealed that there was a statistically significant negative correlation between total anxiety mean

score and total emotional regulation mean score among the study group after dialectical behavioral therapy; this may be due to that the dialectical behavioral therapy (DBT) focuses on helping individuals develop skills to regulate their emotions and cope with stressors. DBT specifically emphasizes mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness, which may help individuals reduce their anxiety and improve their ability to regulate emotions. As a result, individuals who experience greater improvements in emotional regulation skills may also experience greater reductions in anxiety symptoms, leading to the negative correlation observed in the study. This result was in the same line with Loevaas,et al (2018) studied "Emotion regulation and its relation to symptoms of anxiety and depression in children aged 8–12 years: does parental gender play a differentiating role?" they found a negative association between symptoms of anxiety and emotion regulation. Also, Liu, et al (2021) conducted a study on "The relationship between test anxiety and emotion regulation: the mediating effect of psychological resilience". They confirmed that anxiety and emotional control were closely associated.

### **Conclusion**

The dialectical behavioral therapy has a positive effect on reducing anxiety level and improving level of emotional regulation among drug addict patients .There was statistically significant negative correlation between anxiety and emotional regulation

### **Recommendation**

- Regular follow-up psychotherapy sessions are essential in helping patients retain the skills they learned in dialectical behavior therapy and

***The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients***

to address any new challenges that may arise.

- DBT can be an effective treatment option for individuals struggling with drug addiction because it provides tools and strategies to help them manage the underlying emotions and behaviors that contribute to substance abuse.
- Dialectical behavioral therapy should be the foundation of non-pharmacological drug addiction treatment.

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*The Effect of a Dialectical Behavioral Therapy on Anxiety Level and Emotional Regulation among Drug Addict Patients*

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