



To Identify the Impact of Cognitive Behavior Therapy and Art Therapy on Depression and Anxiety Among Adolescents and Early Adulthood

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The purpose of this study was to investigate the impact of Cognitive behavior therapy, art therapy and mindfulness on depression and anxiety among Adolescents and early Adulthood. A sample of total of 30 male and female adults age ranges between 18-30 years was participated from district Peshawar in this study. Beck Depression Inventory (BDI) and Beck Anxiety Inventory were conducted before and after to measure depression and anxiety. Individual therapeutic session was initially designed regularly with 30-45mins time duration. The participants were assessed after 15 days and the results were compared. The results found out that the participants with depression showed a positive response to Art therapy as compared to Cognitive Behavior Therapy. On post assessment, their mean and standard deviation scores on anxiety and depression were significantly reduced. It was concluded that art therapy could be used as an effective therapeutic intervention for the management of anxiety and depression.

Keywords: *Cognitive Behavior Therapy, Art Therapy, Depression, Anxiety, Adolescents, Adulthood*



Introduction

There have been a concerning increase in psychiatric problems among the general population, which is evidenced by numerous studies documenting worldwide over the last several decades. A study conducted in 2013 revealed that mental disorders were present among 34.1% of Pakistani adults, depression being the most common. (Javed et al., 2013). Similarly, according to another study published in 2019 found the prevalence of anxiety disorders among 33% university students in Pakistan, with social anxiety being the highly prevalent (Imran et al., 2019).

Depression

Depression is extreme sadness or despair lasting more than days, interferes with daily life activities, and often characterized by physical symptoms such as pain, weight gain or loss, disturbed sleep patterns, fatigue or lack of energy.

Anxiety

According to Christian Otte, anxiety disorders involve excessive fear and avoidance in response to specific objects or circumstances, even when there is no actual danger. These disorders have a high pervasiveness, with a 12-month rate of around 18% and lifetime rates around 29% (Christian Otte, 2011).

Cognitive Behavior Therapy

Cognitive Behavior Therapy is recognized as the most extensively researched psychotherapy, proving its effectiveness in comparison to other psychotherapies and pharmacotherapy in treating depression. Primary techniques used in CBT for depression include cognitive restructuring (CR) which includes assessing, challenging and modifying dysfunctional beliefs, and behavioral activation (BA) to enhance positive interactions between an individual and his or her environment (Mazzucchelli et al., 2009). CBT has also been found effective in treating and managing anxiety disorders like social anxiety disorder (SAD), generalized anxiety disorder (GAD), and panic disorder (PD) (Acarturk et al., 2009; Hunot et al., 2007; Sánchez-Meca et al., 2010).

Adolescence is an important developmental stage marking the transition from childhood to adulthood. With significant changes in biology, psychology, and social changes, making it one of the most dynamic periods of human development, after infancy (Feldman & Elliott, 1990; Holmbeck, 1994; Lerner, Villarruel, & Castellino, 1999; Steinberg, 2005).

Research on pediatric depression is relatively limited compared to studies in adults, while the research on pediatric anxiety disorders is even more less developed (Axelson, D. A., &



Birmaher, B. 2001). In spite of this, studies in the field of adolescent treatment, particularly in cognitive-behavioral therapy (CBT), have frequently centered around cognitive domain. This emphasis is based on the assumption that changing one's thinking is a basic yet critical step toward improving emotional, behavioral, and social functioning in children and adolescents (Holmbeck, G. N et al., 2006).

Meta-analyses have consistently shown that CBT is effective for common mental health difficulties such as anxiety and depression across various populations (Butler, A. C et al., 2006).

Cognitive behavioral therapy (CBT) has been broadly studied and proven to be successful treatment for depression and panic disorder in numerous various randomized controlled trials [1,2]. It is suggested as a first-line treatment for these disorders in evidence-based clinical practice guidelines (Haby, M. M. et al., 2006).

Numerous research studies have been conducted, consistently shown the efficacy of Cognitive Behavioral Therapy (CBT) in treatment of depressive disorders. A comprehensive meta-analysis of 115 studies has highlighted CBT as an effective strategy for depression with combined treatment including pharmacotherapy and CBT is significantly more effective than pharmacotherapy alone. Furthermore, evidence suggests that the relapse rate for patients treated with pharmacotherapy alone is higher as compared to those treated with CBT (Gautam, M., et al. 2020).

Art therapy

Art therapy is a form of psychotherapy that uses art as a way of emotional expression and communication. As defined by The American Art Therapy Association, art therapy is a kind of therapeutic process that combines mental health and therapeutic techniques by using “active art-making, creative process, applied psychological theory, and human experience.” (American Art Therapy Association 2018).

Art therapy is not only effective for people with psychological distress, it has also been used with individuals going through treatment for various medical and rehabilitation needs.

The psychodynamic approaches have been using art therapy since a long time as they consider art to be the manifestation of unconscious desires and impulses hidden within the psyche. Freud observed that a large number of his patients expressed their feelings in the form of images. (Rubin, J. A. 2012).

Cognitive behavioral approaches to art therapy involve combining the principles and techniques from cognitive behavioral therapy (CBT) into the art therapy. This approach combines the expressive and creative aspects of art therapy with the cognitive restructuring and behavioral interventions of CBT. CBT based art therapy is not just used for adults, it can be effectively used for children as well (Rosal 1992, 1993, 2001). Steele and Raider (2001) utilize drawing and cognitive reframing methods to aid children in remembering and working through traumatic experiences.



One of the earliest studies on the effectiveness of art therapy was conducted in the 1950s by the American art therapist Edith Kramer. (Kramer, E. 1958). Today, art therapy is perceived and considered as a valuable type of psychotherapy and is utilized in a different setup, like hospitals, schools, prisons, and community settings.

One meta-analysis in 2017 was published in the Journal of the American Art Therapy Association, examined 23 studies to find out the effectiveness of art therapy for reducing symptoms of anxiety and depression in adults with mental health disorders. (Girija Kaimal et al., 2017). According to the American Art Therapy Association (2018), art therapy is use for various reasons such as enhancing cognitive and sensorimotor functions, encouraging self-esteem and self-awareness etc.

For the management of depression and anxiety in older adults, a randomized controlled trial in 2019, published in the Journal of Affective Disorders compared the effectiveness of art therapy and cognitive-behavioral therapy (CBT) and reached to conclusion that art therapy was more effective in enhancing quality of life and reducing social disengagement. (E. Kaimal et al., 2019).

According to Abbing et al. (2018) art therapy includes visual arts, such as drawing, painting, and sculpting, with psychotherapy to assist people with communicating their emotions and foster effective coping mechanisms. Likewise, Sandmire et al. (2012) led a study on college students and found that 30 minutes of art-making having a significant effect on the participants' state anxiety.

Conceptual Framework

	Depression	Anxiety	Pre	Post
Cognitive Behavior Therapy	High	High	Symptoms will be high	Symptoms will be reduced
Art therapy	High	High		

Rationale

The purpose of this research is to compare the efficacy of therapeutic approaches i.e., CBT and art therapy in treating anxiety and depression. By looking at these interventions separately and in comparison, with each other we can gain a deeper insight into their effectiveness and potential benefits. This will give us some valuable knowledge about which therapy technique to choose enhancing the precision of treatment options available. It will help us to make evidence-based choices in clinical practice.

Objectives:

1. To explore the effects of Cognitive behavior therapy and art therapy on anxiety and depression.
2. To compare the effectiveness of CBT and art therapy on anxiety and depression.
3. To compare the level of depression and anxiety before and after administrating the therapeutic interventions.
- 4.

Hypotheses

H_1 The level of depression and anxiety will reduce significantly after Cognitive Behavior therapy among individuals in experimental group.

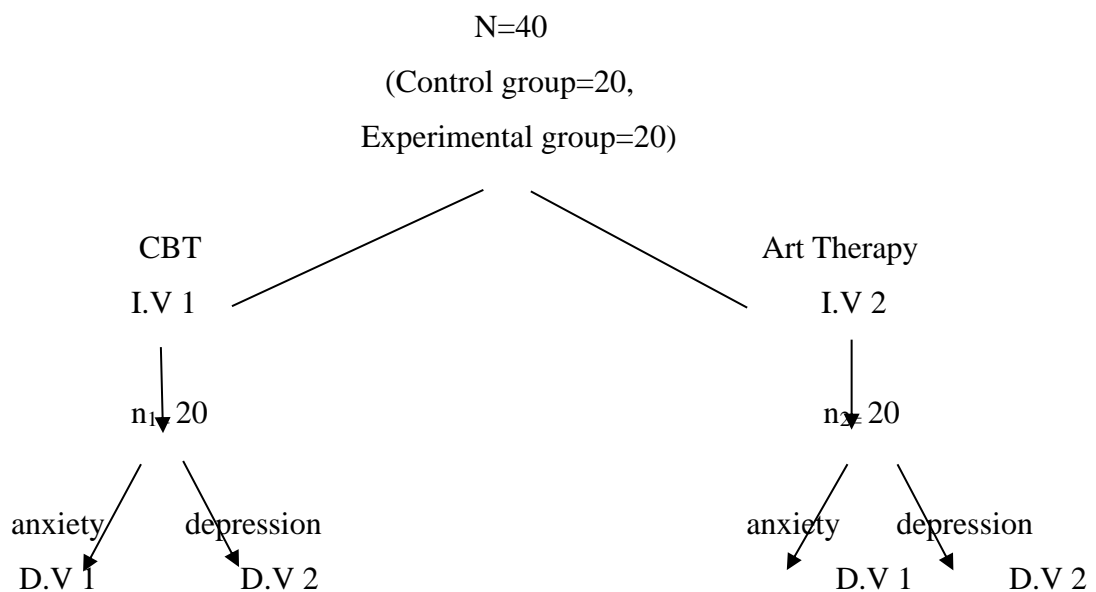
H_2 The level of depression and anxiety will reduce significantly after Art therapy among individuals in experimental group.

H_3 The level of depression and anxiety will be different in pre and post intervention group.

Methodology

Sample

A sample of 120 participants will be taken. Age range will be 20 to 30 years. Sample will be selected on the convince. The individual will be selected after initial screening of Individuals who have mild and moderate level of depressive and anxiety symptoms and then they will be randomly assigned in to experimental and control group. Pre and post research design will be used on the sample population.





Inclusion criteria

1. All participants who were aged between 18 and 30 years of age.
2. Participants who have mild to moderate traits of depression and anxiety.

Exclusion criteria

1. All participants who refused to give informed consent.
2. Participants who do not have traits of depression and anxiety.
3. Differences based on gender and socioeconomic statuses are excluded.

Instruments

The instruments that will be used for this study are the demographic form, Beck depression inventory (BDI) and Beck anxiety Inventory (BAI).

Demographic information form

Demographic will be used to collect the personal details of the participants such as age, gender, education, occupation, socioeconomic status, medication, psychiatric history etc.

Beck Depression Inventory (BDI)

The BDI, developed by Aron T. Beck, Robert A. Steer and Gregory K. Brown is a self-reported inventory with 21 items. It is a 4-point polytomous scale. The score ranges from 0 to 3 and maximum score can be 63. The reliability of scale is 0.86.

Beck Anxiety Inventory (BAI)

The BAI is a self-reported inventory with 21 items. It was developed by Aron T. Beck and Robert A. Steer and (1993). It is a 4-point Likert scale. The score ranges from 0-3 and maximum score can be 63. The reliability of scale 0.92.

Procedure

The data collection starts after getting informed consent from subjects for participating in studies. They will be debriefed about the nature and purpose of the research. They will be assured about the confidentiality of their information and that it will be used for research purpose only.

The initial screening will be done in the first phase of research. Subjects will be screened out by using BDI and BAI. Those subjects who qualify for the study will proceed to phase two.

In the second phase, the participants will be randomly assigning into two groups i.e., Experimental and control group. Pre and post research design will be used on the experimental group. Each of three interventions will be apply over the span of 5 sessions on each participant. Individual session will be conducted on alternate days and each session will last for 45 minutes. After the completion of sessions, the participants will be assessed again and their scores will be compared to their pre-intervention score. The improvement in scores made by the experimental group will be compared to the control group during this time. The impact of all three interventions will be compare with each other.

Results

The current chapter includes two sections of data analysis. First section includes demographics information and reliability coefficient of scales. Second section includes paired sample t-test analysis.

Table 1

Demographic characteristics of the sample (N=60)

Variables	Categories	F	%
Art therapy group (n=10)			
Group 1 (Anxiety)			
Gender	Males	5	50%
	Females	5	50%
Age	18-25	10	100 %
	26-30	0	0 %
Education	Bachelors	10	100%
	Masters	0	0%
Group 2 (Depression) (n=10)			
Gender	Males	4	40%
	Females	6	60%
Age	18-25	10	100%
	26-30	0	0%
Education	Bachelors	10	100%



	Masters	0	0%
CBT group			
Group 1 (Anxiety)			
(n=10)			
Gender	Males	10	50%
	Females	10	50%
Age	18-25	10	50%
	26-30	10	50 %
Education	Bachelors		
Group 2			
(Depression)			
(n=10)			
Gender	Males	10	50%
	Females	10	50%
Age	18-25	10	50%
	26-30	10	50 %
Education	Intermediate	0	0%
	Graduate	10	50%
	Post Graduate	10	50%

Note: F=Frequency, %=Percentage

Table 2

Psychometric properties of scale (N=10)

Scale	No of items	M	SD	A	Range	
					Min	Max
BAI	21	58.74	6.24	.86	43	69
BDI	21	73.22	5.61	.90	66	85

Table 3

Mean, mean difference, standard deviation and t-values for before and after interventions of art therapy for anxiety.

Variable	Before (n=10)		After (n=10)		MD	t	P	95%CL	
	M	SD	M	SD				LL	UL
Anxiety	20.7	2.31	18.1	2.6	2.6	11.759	.000	2.09	3.1

Note: M = mean, SD = Standard Deviation, MD = Mean difference, LL = Lower Limit, UL = Upper Limit

Table 3: Analysis of paired sample t-test shows significant difference in level of anxiety ($p < 0.05$) before and after taking art therapy sessions. Moreover, a mean difference (MD = 2.6) shows a significant decrease in the levels of anxiety before and after taking art therapy sessions.

Table 4

Mean, mean difference, standard deviation and t-values for before and after interventions of art therapy for depression.

Variable	Before (n=10)		After (n=10)		MD	t	P	95%CL	
	M	SD	M	SD				LL	UL
Depression	18.4	4.6	16.1	4.2	2.3	10.7	.000	1.81	2.78

Note: M = mean, SD = Standard Deviation, MD = Mean difference, LL = Lower Limit, UL = Upper Limit

Table 3: Analysis of paired sample t-test shows significant difference in level of depression ($p < 0.05$) before and after taking art therapy sessions. Moreover, a mean difference (MD = 2.3) shows a significant reduction in the levels of depression before and after taking art therapy sessions.

Table 4

Mean, mean difference, standard deviation and t-values for before and after interventions of CBT for depression.

Variable	Before (n = 10)		After (n = 10)		R	t	P	95%CI	
	M	SD	M	SD				LL	UL
Depression	19.10	3.381	15.0	3.16	.94	11.78	.000	3.312	4.887

Note: M = Mean, SD = Standard Deviation, r = Paired Correlation, LL = Lower Limit, UL = Upper Limit.

Table 4: Paired Sample T-test analysis shows significant difference in the level of depression ($p < .05$) before and after intervention of Cognitive behavior therapy among adolescents and adults. Moreover, a mean difference shows a significant reduction in the levels of depression before and after applying Cognitive behavior therapy among adolescents and adults.

Table 5

Mean, mean difference, standard deviation and t-values for before and after interventions of CBT for anxiety.

Variable	Before (n = 10)		After (n = 10)		R	T	p	95%CI	
	M	SD	M	SD				LL	UL
Anxiety	20.60	2.17	15.60	2.06	.828	12.6	.000	4.107	5.892

Note: M = Mean, SD = Standard Deviation, r = Paired Correlation, LL = Lower Limit, UL = Upper Limit.

Table 5: Paired Sample T-test analysis shows significant difference in the level of Anxiety ($p < .05$) before and after intervention of Cognitive behavior therapy among adolescents and adults. Moreover, a mean difference shows a significant decrease in the levels of anxiety before and after applying Cognitive behavior therapy among adolescents and adults.



Discussion

The data from 20 anxious and depressive patients age ranging from 18 to 30 years old adolescents and adults were collected. The data is analyzed to investigate the impact of Cognitive behavior therapy (CBT) and art therapy on depression and anxiety. Research hypotheses are also tested. The dependent variable of this research are depression and anxiety. The independent variable is Cognitive behavior therapy (CBT) and Art therapy.

The purpose of this research was to investigate the connection among Cognitive Behavior Therapy (CBT) and Art therapy, depression, and anxiety. Our results suggest that CBT could be beneficial in reducing dysphoria and anxiety in adolescents and adults, and the improvements in treatment are sustained over time as compared to art therapy. These findings carry significant implications. Firstly, they instill optimism regarding the effectiveness of psychotherapy for adolescents and adults. Our results align with existing research proposing that actively addressing problems can be valuable in alleviating depression and anxiety, emphasizing the importance of maintaining such a focus when working with dysphoric and anxious adolescents and early adults. These therapies employ techniques aimed at modifying maladaptive beliefs and fostering behavioral competencies. These interventions target the levels of self-control, perception about one's self efficacy, problem-solving skills, and social abilities, as well as an increase in engagement in activities that offer a sense of mastery and pleasure.

As per Sudak (2012), Cognitive Behavior Therapy (CBT) emerges as a valuable treatment across the spectrum of major depression, proving effective for mild, moderate, and severe forms. Sudak suggests that combining medication with CBT may enhance response rates, and the use of CBT after successful pharmacotherapy can extend the duration of positive outcomes.

Shifting focus to adolescent anxiety, Kendall and Peterman (2015) present an optimistic outlook for CBT. Randomized clinical trials indicate that around two-thirds of youths taking CBT as a form of therapy experience significant improvement. Improvement rates are even higher when therapy is combined with antidepressant medication. Importantly, studies involving mixed child and adolescent samples reveal no significant differences in outcomes between these age groups. The versatility of CBT is further supported, with adolescents showing improvement in alternative formats of CBT administration. The existing body of research on CBT in anxiety disorders consistently validates the efficacy and effectiveness of these methods. (James et al., 2020). A 2010 meta-analysis by Sarah Deane and colleagues, that included 12 studies, showed the success of art therapy in lowering depressive symptoms in adults with depression. The current study also has the same findings.

Studies show that even a small duration such as 30 minutes of art-making can have a substantial effect on the participants' level of anxiety. (Sandmire et al. 2012). Art therapy is not only effective in reducing psychological aspects of anxiety, it also deals with psychological symptoms associated with physical illnesses such as in breast cancer and stroke patients (Boehm, k. 2014).



Conclusion

The purpose of this study is to explore the potential differential effectiveness of therapeutic interventions that includes CBT and art therapy approaches in treating anxiety and depression, respectively. This area is under-researched, especially in developing countries like Pakistan. The sample of the study was adolescents and adults from age 16-30 years old. The data was collected through convince sampling method. Depression and anxiety were measured through paired sample test. Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were used to collect data for both groups. The main conclusion drawn from this study is that art therapy is likely to be more effective for dealing with depression and anxiety. The study suggests that future researches in this area should strive to enhance our knowledge regarding the effectiveness of these interventions. This should include factors such as the availability of treatment, cost of treatment, individual preferences etc. which will contribute to a comprehensive and nuanced understanding.

Limitations and implications:

This study has a few limitations. First, this study has a small and limited sample. In order to get more precise and accurate results, a larger sample is required. Second, the number of sessions provided to the participants in this study are low as well. To see a more long-term effect of the intervention, the number of sessions would have to be increased. Another limitation this study has is that it is conducted on general population who were not diagnosed with anxiety or depressive disorder. A sample taken from clinical population might give different results. The present research provides a direction for treatment of depression and anxiety using art therapy by highlighting its effectiveness in reducing the symptoms.



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