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Effectiveness of Acceptance and Commitment Therapy (Act) On Psychological Flexibility Among Patients with Depression – A Preliminary Analysis

Chrishma Violla D'Souza [*a], S. S. Prabhudeva[b], Virupaksha Shanmugam Harave[c]

a. Lecturer, M.S.Ramaiah Institute of Nursing Education & Research, India.
b Dean, Editor In Chief, Nightingale Nursing Times, Former Dean of Rajiv Gandhi University of Health Sciences, India
c Assistant Professor, Dept of Psychiatry, MS Ramaiah Medical College and Hospitals,

ABSTRACT

Background: This study evaluated the effectiveness of Acceptance & Commitment Therapy (ACT) on psychological flexibility among Patients with depression

Methods: 10 subjects having depressive symptoms & receiving treatment (5 experimental + 5 control) were selected using Simple Random Sampling at Spandana hospital Bangalore Measures: The independent variable of this study was Acceptance and Commitment Therapy (ACT). The dependent variable was psychological flexibility, Acceptance & Action Questionnaire-II (AAQ-II) was used to asses psychological flexibility. Procedure: On day one, Coin flip method was used to allocate subjects to either Acceptance & Commitment Therapy (ACT) or treatment as usual (TAU) group. Subjects in experimental group (n=10) received six sessions of Acceptance & Commitment Therapy (ACT). Sessions were delivered on one to one basis on alternative days. Each session lasted for 30-45 minutes.

Results: Difference in the post treatment scores between ACT & TAU is statistically significant for psychological flexibility ($P < 0.00$).

Conclusion: ACT is effective compared to TAU, in improving psychological flexibility among depressive patients.

Keywords: *acceptance & commitment therapy; depression; ACT ; psychological flexibility.*

***Corresponding Author**
Lecturer, M.S.Ramaiah Institute of Nursing Education & Research
Gnana Gangothri Campus, M.S.R Nagar, M.S.R.I.T Post, Bangalore - 560054. E-mail: chrishvd@gmail.com

Background:

Depression is a leading cause of disability worldwide. It is estimated that 350 million people globally are affected by depression (Kanter, Busch, Weeks, & Landes, 2008). Unipolar depressive disorders were ranked as the third leading cause of the global burden of disease in 2004 and will move into the first place by 2030. Depression is second cause of Disability Adjusted Life Years (DALYs) in the age category 15-44 years(Marcus, Yasamy, Ommeren, Chisholm, & Saxena, 2012). By the year 2020, depression is projected to reach second place in the ranking of (DALY) calculated for all ages. Indian union health ministry estimates state that 120,000 people commit suicide every year in India(*Accidental Deaths and suicides in India. National Crime Records Bureau. Ministry of home affairs. Government of India*, 2015). According to the World Health Organization (WHO) data-base, 13 per cent of the population in India suffers from severe or extreme depression, while nearly 50 per cent of the population harbours some feelings of sadness or depression.

A primary basis of suffering among depressive clients is psychological inflexibility, an inability to make adjustments necessary to sustain value directed behaviour.

People lose contact with present-moment contingencies due to entanglement with a conceptualized past and future and resulting attentional inflexibility. They fail to stay in contact with a more transcendent sense of self, allowing behavioral patterns to be dominated by a conceptualized sense of self instead. These contribute to narrow and rigid behavioral patterns characterized by inaction, impulsivity, and avoidant behaviour. The coming together of these processes is termed "psychological inflexibility," which is the core of most human suffering. Cognitive, emotional, and behavioral inflexibility narrows the opportunities that are apparently present to move in a valued direction(Pierson & Hayes, 2007).

To effectively promote mental health, interventions should be based on theories and empirical evidence of psychological competences that can explain their effectiveness(Jané-Llopis & Barry, 2005; Swain, Hancock, Dixon, & Bowman, 2015). Psychological flexibility is one such competence(Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Psychological flexibility includes 2 mutually dependent processes: acceptance of experiences and value-based behaviour. A psychologically flexible person is willing to remain in contact with negative experiences rather than trying to avoid, alter, or control negative experiences.

Acceptance and Commitment Therapy is a powerful new intervention based on how the human mind works. ACT helps the client to accept & embrace thoughts and feelings as they come, identify & focus on what matters & what they value in life, carry out committed actions towards realised valued life goals. Psychological flexibility is important during an ACT intervention for a reduction in depressive symptoms. Accepting negative experiences may protect individuals from experiencing negative affect and from developing depressive symptoms. Acceptance and commitment therapy (ACT) promotes positive mental health by enhancing psychological flexibility. Acceptance strategies are useful in treatments for depression(Hayes, S. C., & Smith, 2005).

This acceptance is facilitated by committing to actions that are based on an individual's authentic values(Hayes, S. C., & Smith, 2005). Studies have shown that psychological flexibility is related not only to fewer psychological problems(Chawla & Ostafin, 2007; Hayes et al., 2006), but also to better quality of life, emotional well-being and improving depressive symptoms(Pots et al., 2016). Two other studies showed that psychological flexibility mediates the effects of adaptive coping styles on emotional and psychological well-being(Fledderus, Bohlmeijer, & Pieterse, 2010; Kashdan, Barrios, Forsyth, & Steger, 2006).

Enhancing psychological flexibility is the focus of acceptance and commitment therapy. ACT is a form of contextual behavioral therapy that aims to increase psychological flexibility(Steven C Hayes, Kirk Strosahl, 1999). Clients learn that trying to change the content of their experiences is counterproductive. Instead, clients learn to detach from these experiences and to focus instead on behaviors that support their individual values. This is explained with the use of metaphors and encouraged by experiential exercises. Meta-analyses have shown medium to large effect sizes of ACT interventions on different symptoms of psychological distress(Hayes et al., 2006; Powers, Zum Vorde Sive Vording, & Emmelkamp, 2009).

Methods

Research Design: An experimental approach using pre-test post-test-control group design was carried out.

Setting: The study was conducted at Spandana hospital Bengaluru, Karnataka India. The total bed strength of the hospital is, 50. There are five psychiatrists, two psychologists, three counsellors and eight residents in the hospital. On an average 130-150 patients with emotional disturbances are treated on outpatient basis per day. Nearly 30 cases per day are identified to be having depressive symptoms.

Sample: Patients diagnosed with depression & receiving treatment at spandana mental health centres, and who met the inclusion criteria were selected.

Inclusion exclusion criteria:

Patients diagnosed with depression or having depressive symptoms and aged between 20 to 60 years were included. Those who gave informed consent and understood Kannada or English were included. Patients having psychotic symptoms, diagnosed with substance abuse and other comorbid disorders were excluded to maintain homogeneity.

Study sample:

Sample size of 10 was estimated for preliminary analysis of the study. Simple Random Sampling Technique was used to recruit the subjects. On day one, Coin flip method was used to allocate subjects to either Acceptance & Commitment Therapy (ACT) or treatment as usual (TAU) group.

Study variable: The independent variable of this study was Acceptance and Commitment Therapy (ACT). The dependent variable was psychological flexibility,

Method of Data Collection: Interview and self-report were used as a method of data collection Ethical clearance was obtained from ethical committee of M.S. Ramaiah Medical College Bangalore.

Study instrument:

Psychological flexibility was measured by the Acceptance and Action Questionnaire (AAQ-II). The Acceptance and Action Questionnaire-II (AAQ-II) is a 10-item measure of psychological flexibility.37 The AAQ-II assesses the ability to accept aversive internal experiences and to pursue goals in the presence of these experiences on a 7-point scale ranging from never true (1) to always true (7). A total score, ranging from 10 to 70, was computed by summing the scores on the individual items. Higher scores on the AAQ-II indicate higher levels of psychological flexibility. The AAQ-II has shown good reliability for group comparisons in mild to moderately depressed populations(4). The AAQ-II showed good construct, and convergent and divergent validity(Bond et al., 2011). The AAQ-II showed good internal consistency (a=0.86; T0)(Fledderus, Bohlmeijer, Smit, & Westerhof, 2010).

Procedure of data collection:

Outpatients diagnosed with depressive disorders or having depressive symptoms were randomly selected as subjects. Psychiatrist were informed about inclusion exclusion criteria hence patients were referred by them. Subjects were given adequate explanation about the study and informed consent was obtained. All subjects were requested to complete the research tools assessing for, depression, psychological flexibility, automatic thought questionnaire and disability.

On day one, Coin flip method was used to allocate subjects to either Acceptance & Commitment Therapy (ACT) or treatment as usual (TAU) group. Subjects in experimental group (n=10) received six sessions of Acceptance & Commitment Therapy (ACT). Sessions were delivered on one to one basis on alternative days. Each session lasted for 30-45 minutes.

On completion of all sessions post test was conducted immediately after the intervention for the subjects in experimental group that is after 12 days of completion of pre-test. Similarly, pre-test and post-test were conducted for experimental group with a gap of 12 days.

Researcher had to go to subject's residence as their follow-up date was not matching with the post-test date. During pilot study 4 subjects from experimental group were lost in follow up for various reasons that included shifting patient's residence away from city (2) change of hospital for treatment (1) discontinuation of intervention. (1)

Data analysis: SPSS Statistics (Version 18) was used for data analysis. Descriptive statistics were calculated for all study variables. Appropriate inferential statistical methods were employed which included, t test and chi square test. Findings of data analysis are presented under following sections

Results

Section I: Demographic characteristics of subjects

Section II: Findings related to effect of intervention on psychological flexibility.

SECTION I: DEMOGRAPHIC CHARACTERISTICS OF SUBJECTS

Table no. 1: Comparison of psychological flexibility pre-test mean scores between ACT and TAU group subjects.

n=10+10

Sl.	Variables	Pre-Test		
		M	S.D	**P Value**
1	Psychological Flexibility			
	ACT	21.7	6.092	0.702
	TAU	22.7	5.375	

Table No. 2A: Socio-demographic characteristics of subjects n=10+10

Sl.	**Variables**	**ACT**		**TAU**		**P Value**
		Mean	**S.D**	**Mean**	**S.D**	
1.	Age in years	37.9	10.78	43.1	10.67	.293
2.	Duration of illness in months (Depressive symptoms)	8.3	7.13	10.50	9.62	.569

Table No.2B: Socio-demographic characteristics of subjects n=10+10

Sl.	Variables		ACT		TAU		P Value
			Freq	%	Freq	%	
1.	Gender	Female	7	70.0	8	80.0	.606
		Male	3	30.0	2	20.0	
2.	Marital Status	Single	2	20.0	1	10.0	.531
		Married	8	80.0	9	90.0	
3.	Education	Graduate or Post graduate	4	40.0	3	30.0	.767
		Intermediate/post high school diploma	2	20.0	2	20.0	
		High school certificate	4	40.0	4	40.0	
		Middle school certificate	0	0	1	10.0	
4.	Occupation	Profession	2	20.0	1	10.0	.683
		Semi profession	1	10.0	0	0	
		Clerical, Shop owner	0	0	1	10.0	
		Skilled worker	2	20.0	1	10.0	
		Semiskilled worker	4	40.0	5	50.0	
		Unemployed	1	10.0	2	20.0	
5.	Family income per month	≤ 31,501	5	50.0	4	40.0	.507
		15,756-31,506	3	30.0	1	10.0	
		11,817-15,753	2	20.0	3	30.0	
		7878-11,816	0	0	1	10.0	
		4727-7877	0	0	1	10.0	
6.	Religion	Hindu	8	80.0	9	90.0	.531
		Christian	2	20.0	1	10.0	

Baseline equivalence

Table 1& 2 depicts that randomization resulted in a balanced distribution of subjects across both ACT & TAU groups. At pre-measurement, there were no statistically significant differences in either in demographic variables or psychological flexibility between the two groups (ACT and TAU). This indicated that ACT & TAU groups were similar with respect to their variables before treatment. Therefore, they are comparable.

SECTION II: FINDINGS RELATED TO EFFECT OF INTERVENTION ON PSYCHOLOGICAL FLEXIBILITY

Table no. 3: Comparison of mean pre-test and post-test scores of ACT and TAU group subjects for psychological flexibility.

n=10+10

Sl.	**Variables**	**Pre Test**		**Post test**		**P Value** (P < 0.05)		
		M	**S.D**	**M**	**S.D**	**A**[#]	**B**[#]	**C**[#]
1	**Psychological Flexibility**							
	ACT	21.7	6.092	54.9	3.784	**.000***	**.000***	**.000***
	TAU	22.7	5.375	27.8	5.094			

[#] **A** – Pre-test vs. Post-test of ACT Group; **B** – Pre-test vs. Post-test of TAU Group;

C –Post-test ACT Group vs. Post-test TAU Group.

Both ACT & TAU groups show statistically significant improvement in psychological flexibility from pre-test to post-test P value ranging between (0.00-0.002).

Difference in the post treatment score of psychological flexibility between ACT & TAU is also statistically significant for (P < 0.00).

Discussion:

This study examined the effectiveness of Acceptance & Commitment Therapy (ACT) on psychological flexibility among Patients with depression. To asses psychological flexibility, Acceptance and Action Questionnaire (AAQ-II) was used. AAQ-II has ten questions to be answered on a scale of 1 (never true) to 7 (always true). Psychological flexibility which can be described as, participant's willingness to be in contact with negative private events, acceptance of these events, and whether they can live in accordance with their values was assessed before and after the intervention among both the groups who received and who did not receive Acceptance & Commitment Therapy (ACT).

Study subjects of the study were clients harbouring depressive symptoms. These specific group of people were selected for the study because, it is evident from the literature that, psychological inflexibility mediates depression(Ruiz & Odriozola-Gonzalez, 2015). Accepting negative experiences, which is psychological flexibility may protect individuals from experiencing negative affect and from developing depressive symptoms(Shallcross, Troy, Boland, & Mauss, 2010).

Therefore, improving psychological flexibility which in turn reduces the feeling of depression was the main objective of this study.

It was evident by the findings of this study that the Acceptance & Commitment Therapy (ACT) has improved psychological flexibility among subjects who were harbouring depressive feelings.

A study comprehensively examined changes of psychological flexibility following an ACT-based treatment for chronic pain, among referrals to a four-week, residential, interdisciplinary pain management program in London, UK, and examined change in relation to improvements in patient functioning. At pre- and post-treatment and during a nine-month follow-up. Significant improvements were observed from pre- to post- treatment and pre-treatment to follow-up on each of the treatment outcome and process variables. Regression analyses indicated that change in psychological flexibility processes cumulatively explained 6–27 % of the variance in changes in functioning and depression over both assessment periods, even after controlling for changes in pain intensity. Therefore, it concludes that, changes in some of the processes of psychological flexibility may be linked to improvements in patient functioning, as predicted by the psychological flexibility model.

Present study also is aligned with previous studies that have shown that psychological flexibility can be substantially improved by ACT(Dahl, Wilson, & Nilsson, 2004; Dalrymple & Herbert, 2007; Lappalainen et al., 2007; PA et al., 2007; Roemer, Orsillo, & Salters-Pedneault, 2008).

Conclusion

This study provides support to the findings that, Acceptance & Commitment Therapy ACT is effective compared to treatment as usual (TAU), in improving psychological flexibility specifically among patients harbouring depressive symptoms.

This reveals the need for having such interventions implementation in mental health centres. The intervention can also be adapted to populations in other settings, such as at work and in schools..

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