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

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ABSTRACT

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

Methods: Sample: 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 negative cognition. Automatic Thoughts Questionnaire (ATQ) was used to asses negative cognition.

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 Negative cognition ($P < 0.00$).

Conclusion: ACT is effective compared to TAU, in reducing negative cognition among patients with depressive symptoms.

Keywords: *acceptance & commitment therapy; depression; ACT ; negative cognition.*

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Background:

Depression is a leading cause of disability worldwide. It is estimated that 350 million people globally are affected by depression. 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.

Cognitive fusion or negative cognition refers to verbal dominance over behavioural regulation. In this state thoughts dominate person's attention and gets entangled in own thoughts so that they dominate awareness and have a huge influence over behaviour. People experiencing depression fuse with unhelpful thoughts like: I'm bad, I don't deserve any better, I can't change, I've always been this way, it is too hard, Therapy won't work, it'll never get any better, I can't get out of bed when I feel this way, I'm too tired to do anything. They also often fuse with painful memories involving things such as rejection, disappointment, failure, or abuse. Therefore these negative thoughts will make an individual escape from the present (here and now) situation resulting in avoidance behaviour that takes many forms and is termed as experiential avoidance.

Fusion and avoidance readily lead to a loss of contact with here-and-now experience. Getting caught up in a conceptualized past and future is called as dominance of the conceptualized past and future. Dwelling on painful memories and ruminating over why things happened that way, fantasizing about the future, worry about things that haven't happened, and focusing on things that must be done next. And in the process, individual miss the here and now. Depressed clients commonly spend a lot of time fused with a conceptualized past.

Literature emphasizes the role of avoidance in functional analysis of depression(Ducasse & Fond, 2013)(Hayes et al., 2004). Review shows that avoidance may underlie a host of psychological problems, including depression, and the specific relation between avoidance and depression has received empirical support as well (Ottenbreit & Dobson, 2004)

Repetitive negative thinking (RNT) has been identifed as a core feature of emotional disorders (Ehring & Watkins, 2008). For instance, individuals showing depression usually ruminate about the signifcance, causes, and consequences of their symptoms(Nolen-Hoeksema, Papageorgiou, & Wells, 2004)

ACT also emphasizes that experiential avoidance itself is fuelled by a verbal (i.e., rule-governed) process. Such rules may take many forms, such as ''I can't stand to feel this way,'' ''Having feelings makes one weak and vulnerable,'' or ''I need to be happy.'' These rules, in the context of particular aversive private events, may result in avoidance behaviour that also takes many forms, such as avoiding to see one's children so as to not feel sad and have thoughts of being a failure as a parent, oversleeping to escape daytime stress (or undersleeping, if dreams or thoughts while in bed are aversive), overeating to combat loneliness in the evening (or undereating, if eating results in thoughts about being fat, about not having someone to eat with, etc.), rumination to avoid the anxiety that accompanies active problem solving, avoidance of challenging social situations where one might fail (or going to the party but passively sitting on the couch all night), or drinking alcohol excessively to block the pain of grief (Kanter, Baruch, & Gaynor, 2006).

Ruminating on painful past events, often having to do with rejection, loss, and failure. They also fuse with a conceptualized future, worrying about all the negatives that might lie ahead. Experiential avoidance, whose effect seemed to be carried on further by automatic thoughts was found to mediate the emotional distress (Cristea, Montgomery, Szamoskozi, & David, 2013).

Distressing thoughts are found across a wide range of psychiatric syndromes that are characterized by negative affect, including depression. These cognitions are often persistent and remain active even following successful treatment, posing a risk for relapse. However, negative thinking is not restricted to clinical populations, but rather, it is part of everyday life Given the pervasiveness of negative thoughts in psychopathology. Acceptance and commitment therapy include core treatment components that specifically focus on negative thinking (Yovel, Mor, & Shakarov, 2014).

Acceptance and Commitment Therapy (ACT) is a unique empirically based psychological intervention that uses acceptance and mindfulness strategies, together with commitment and behaviour change strategies, to reduce negative thoughts.

ACT emphasizes active acceptance of distressing thoughts, with the aim of lessening their regulatory power over behavior. ACT encourages the recognition of such negative internal events. It then advocates for "cognitive defusion" (CD), a separation of thoughts from the self and from what they refer to, without a direct attempt to modify

their content. There are many cognitive defusion techniques, and they are all geared toward creating contexts that enable clients to distance themselves from their thoughts and to experience them in ways that weaken their meaning. It is assumed in ACT that experiencing unwanted thoughts in such contexts deemphasizes their content and therefore helps to perceive them as internal events that can simply be observed. According to this approach, treating negative thoughts as mental occurrences that do not need to be controlled, changed, or acted upon is beneficial because it is incompatible with maladaptive cognitive strategies (e.g., rumination, suppression) and behavioral tendencies (e.g., situational avoidance). Thus, decreasing the frequency of neg- ative thoughts or changing their content is not emphasized in ACT, and instead treatment aims to change the ways in which people relate to the distressing cognitions they experience.

Acceptance showed efficacy in alleviating distress associated with negative thinking in some studies(Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Huffziger & Kuehner, 2009; Low, Stanton, & Bower, 2008; Singer & Dobson, 2007; Wade, George, & Atkinson, 2009) but not in others (Asnaani, Sawyer, Aderka, & Hofmann, 2013; Dunn, Billotti, Murphy, & Dalgleish, 2009; Kuehner, Huffziger, & Liebsch, 2009; Rood, Roelofs, Bögels, & Arntz, 2012)

In cognitive theory, a negative cognitive style may generate depressive symptoms and hopelessness. In maladaptive cognition, emotional acceptance reduces rumination among depressed individuals. A brief ACT protocol is effective for emotional disorders focused on disrupting Repetitive Negative Thinking (RNT).

Decreased experiential avoidance, or becoming more willing to experience uncomfortable physical sensations and emotions, has been proposed as a possible mechanism of change by ACT.

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 negative cognition.

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: Negative cognition was measured using automatic thoughts questionnaire (ATQ). Psychometric evaluation of the automatic thoughts questionnaire ATQ shows that, it has good internal stability in both clinical (n = 177) and nonclinical (n = 249) populations (Cronbach's a = .95 and .97, respectively). Test–retest reliability over 3 months with a nonclinical sample is .85. The ATQ correlates significantly with the BDI for both populations (r = .53

and .58, respectively), providing evidence of the measure's construct validity. Thus, the psychometric properties of the ATQ appear to be adequate for use as a process measure (Ruiz, Suarez-Falcon, & Riano-Hernandez, 2017)

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 negative cognition.

SECTION I: DEMOGRAPHIC CHARACTERISTICS OF SUBJECTS

Table No: 1 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: 1 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	

Table no: 2 Comparison of negative cognition's pre-test mean scores between ACT and TAU group subjects.

n=10+10

Sl.	Variables	Pre-Test		
		M	S.D	**P Value**
1	Negative Cognition,			
	ACT	119.5	12.447	0.838
	TAU	118.3	13.367	

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 any of the measures 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.

Findings:

Comparison of ACT and Treatment As Usual (TAU) group.

n=10+10

Sl.	**Variables**	**Pre Test**		**Post test**		**P Value** (P < 0.05)		
		M	**S.D**	**M**	**S.D**	**A**[#]	**B**[#]	**C**[#]
1	**Negative Cognition,**							
	ACT	119.5	12.447	48.3	9.557	**.000***	**.002***	**.000***
	TAU	118.3	13.367	105.5	10.047			

[#] **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 negative cognition from pre-test to post-test P value ranging between (0.00-0.002).

Difference in the post treatment scores between ACT & TAU is statistically significant for Negative cognition (P < 0.00).

Discussion: This study examined the effectiveness of Acceptance & Commitment Therapy (ACT) on negative cognition among Patients with depression. Negative cognition was measured using automatic thoughts questionnaire (ATQ) before and after the intervention among both the groups who received and who did not receive Acceptance & Commitment Therapy (ACT).

Repetitive negative thinking (RNT) is a common symptom across depressive disorders and preliminary evidence suggests that decrease in rumination and worry are related to improvement in depression symptoms(Kertz, Koran, Stevens, & Bjorgvinsson, 2015). A systematic review strongly supported perseverative negative thinking predicting subsequent depression, and emotional distress in people and suggested that, interventions targeting perseverative negative thinking could improve depression. (Trick, Watkins, Windeatt, & Dickens, 2016). Having these evidences as support present study targeted to reduce negative thinking among patients having depressive symptoms. Therefore, reducing depression among the patients was the concern.

In order to reduce negative cognition, ACT therapy was implemented. Acceptance showed efficacy in alleviating distress associated with negative thinking in some studies(Campbell-Sills et al., 2006; Huffziger & Kuehner, 2009; Low

et al., 2008; Singer & Dobson, 2007; Wade et al., 2009) Decreased experiential avoidance, or becoming more willing to experience uncomfortable physical sensations and emotions, has been proposed as a possible mechanism of change by ACT.

Present study evidentially showed the difference in the post treatment scores between ACT & TAU for Negative cognition ($P < 0.00$).

The conceptualization of unconstructive worry and rumination as evaluative and problem-solving experiential avoidance strategies is relevant for contextual behavioral science(Hayes, Barnes-Holmes, & Wilson, 2012) because acceptance and commitment therapy(Steven C Hayes, Kirk Strosahl, 1999) is focused on disrupting these strategies and reducing depression.

It is also evident from the literature that; even brief ACT protocols are effective in disrupting negative cognition(Ruiz, Riaño Hernández, Suárez Falcón, & Luciano, 2016)..

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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