



## Original article

### Efficacy of 'Positive Psychology Based Mindfulness CBT' in adults with Generalized Anxiety Disorder

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#### ABSTRACT

**Introduction:** Anxiety disorders are thought to be caused and maintained in part by a disturbance in information processing that leads to an overestimation of danger or perceived threat and an associated underestimation of personal ability to cope, in recent times it has been thought that Positive Psychology could play a crucial role in treating Anxiety Disorder, The current research is based on the principles of Positive Psychology, Cognitive Behavior Therapy (CBT) coupled with mindfulness meditation to treat anxiety. **Objective:** To Study the efficacy of the approach, Positive Psychology Based Mindfulness CBT to overcome anxiety, also to test the efficacy of CBT and Mindfulness alone in comparison. **Methods:** The study was conducted to identify the efficacy of new novel approach 'Positive Psychology based Mindfulness CBT' on adults with generalized anxiety disorder. It was a cross-sectional prospective study. The sample for the study was recruited from the patients attending the adult psychiatric OPD of the department of Psychiatry GTB HOSPITAL, Delhi and fulfilling the ICD-10 diagnostic criteria for assessment anxiety disorder. The study was conducted on a minimum of 120 subjects attending the psychiatric OPD of the department of Psychiatry GTB HOSPITAL, Delhi. The subjects were selected on the circumstantial ground, namely the incoming of the patient in the OPD, furthermore based on their education status the cases were either selected for CBT or mindfulness. **Results:** The findings of the study conclude that both Cognitive Behavior Therapy (CBT) and Mindfulness are positively related and reduced anxiety while increases peace. The results are more reliable as three different scales were used to analyze the efficacy of reducing panic disorder and social anxiety disorder. **Conclusion:** From the study it is evident that Positive Psychology based Mindfulness CBT intervention would reduce the anxiety and increases peace.

**KEYWORDS:** Positive Psychology, Happiness, Wellbeing.

#### INTRODUCTION

Positive psychology is a recent branch of psychology whose purpose was summed up in 1998 by Martin Seligman and Mihaly Csikszentmihalyi. Positive psychologists seek "to find and nurture genius and talent", and "to make normal life more fulfilling", not simply to treat mental illness [1]. The field is intended to complement, not to replace traditional psychology. It does not seek to deny the importance of studying how things go wrong, but rather to emphasize the importance of using the scientific method to determine how things go right. Researchers in the field analyze things like states of pleasure or flow, values, virtues, talents, as well the ways that they can be promoted by social systems and institutions [2].

In recent years there has been increasing interest in the application of meditation approaches in the management of

mental health concerns as part of positive psychology [3]. Meditation is considered to be one of the three self-regulatory strategies that are effective in the management of anxiety [4]. Anxiety is characterized by both psychological and physiological symptoms; it can be defined as, a psychological and physiological state which is characterized by cognitive, somatic, emotional, and behavioral components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, apprehension, fear, or worry.

There are various types of anxiety disorders namely Panic disorder without agoraphobia, panic disorder with agoraphobia, agoraphobia without history of panic disorder, specific phobia, social phobia, obsessive compulsive disorder, Generalized anxiety disorder, post-traumatic stress disorder, acute stress disorder, anxiety disorders due to

generalizes medical conditions, substance induced anxiety disorder, and anxiety disorder not otherwise specified.

Anxiety disorders are thought to be caused and maintained in part by a disturbance in information processing that leads to an overestimation of danger or perceived threat and an associated underestimation of personal ability to cope. According to Barlow's[5] concepts anxiety is the preparation towards a forthcoming negative event and it is comparable to the mood or the state of an animal prior to it being attacked by its enemy. Anticipating an aversive event the responses of the person that is physiological, psychological and behavioral is termed as anxiety [6]. Humans experience some amount of sensations of anxiety but excessive or inappropriate anxiety becomes an illness.

Anxiety is currently seen as a developmental disorder, a result of the gene by environment interactions that can induce structural and functional changes in an amygdala-prefrontal circuitry. Anxiety disorders are genetically complex, and the phenotypes may be the expression of a gene by gene as well as a gene by environment interactions[7]. Anxiety disorders often arise early in childhood and follow different developmental pathways. The children associated with anxiety disorders usually exhibit the following characteristics behavioral inhibition, autonomic reactivity, somatic symptoms, social fears, enhanced startle reflex and respiratory sensitivity.

Kabat-Zinn [8] is considered as the foremost pioneer in the therapeutic application of mindfulness and put forth the definition of mindfulness. This is basically referred to the awareness of one's present state and non-judgmental experience of the moment. Therapeutic mindfulness as put forth by Germer, Siegel and Fulton [9], mindfulness is awareness of present experience with acceptance. Mindfulness is characterized by awareness of physical sensations, perceptions, thoughts etc. and it is a non-evaluative and dispassionate moment to moment awareness. Mindfulness is a way of relating to all the experience that can decrease suffering and propel towards positive personal transformation. Further Brown, Ryan and Cresell [10] simplified the term mindfulness as receptive attention and awareness of the present events and experience.

### **Objective**

To study the efficacy of new novel approach 'Positive Psychology based Mindfulness CBT' in adults with generalized anxiety disorder.

## **MATERIALS AND METHODS**

### **Inclusion Criteria**

- a) Age group between 18 to 60 years
- b) Confirmed diagnosis of Generalized Anxiety Disorder (ICD-10, DCR)
- c) Duration of illness minimum 6 months.
- d) CBT minimum education till 10th class

### **Exclusion Criteria**

- a) Any other diagnosed psychiatric disorders
- b) Any significant physical disability
- c) Any major medical/surgical illness

### **Sample description**

The study was conducted to identify the new novel approach 'Positive Psychology based Mindfulness CBT' on adults with generalized anxiety disorder. It was a cross-sectional prospective study. The sample for the study was recruited from the patients attending the adult psychiatric OPD of the department of Psychiatry GTB HOSPITAL, Delhi and fulfilling the ICD-10 diagnostic criteria for assessment anxiety disorder. The study was conducted on a minimum of 120 subjects attending the psychiatric OPD of the department of Psychiatry GTB HOSPITAL, Delhi. The subjects were selected on the circumstantial ground, namely the incoming of the patient in the OPD, furthermore based on their education status the cases were either selected for CBT or mindfulness

### **Research tools and techniques applied**

To achieve the stated objective, a twofold approach comprising of qualitative and quantitative analysis was undertaken. Further study carried out A-B-A research design which mainly involves the establishing a baseline condition, introducing and experimental treatment and then returning to the baseline. The main purpose of adopting this design is to observe any changes occurred at the time of intervention was identified. By introducing the baseline, researchers have the capability to identify the participants performs with no treatment.

## **EXPERIMENTAL PROCEDURE**

The above-mentioned scales were administered to subjects having complaints of anxiety at GTB hospital, Delhi; among them 120 subjects who were meeting the criteria for Generalized Anxiety Disorder would be selected on circumstantial ground, namely the incoming of the patient in the OPD, furthermore based on their education status the cases were either selected for CBT or mindfulness. The subjects were distributed in 4 groups of 30 subjects each would be selected as per the criteria.

The 1st experimental group comprising of 30 selected subjects was given 'Positive Psychology based Mindfulness CBT'. After the baseline assessment- 7 sessions were conducted, which included 5 sessions of Positive psychology based Cognitive Behavior Therapy and 2 sessions of Mindfulness Meditation. One session per week for 5 weeks Positive Psychology based CBT was conducted and 2 sessions of mindfulness meditation were conducted, one session per week on the second and fourth week respectively. Post-intervention assessment was conducted on appropriate tools.

The 2nd group comprised of 30 selected subjects was given just Cognitive Behavior Therapy. After the baseline assessment- 7 sessions were conducted, which would include 7 sessions Cognitive Behavior Therapy. One session per week for 7 weeks. Post-intervention assessments were conducted on appropriate tools. The 3rd group comprised of 30 selected subjects was given just Mindfulness Meditation as a form of intervention. After the baseline assessment- 7 sessions was conducted, which included 7 sessions of Mindfulness Meditation? One session per week, for 7 weeks of mindfulness meditation was conducted Post-intervention assessment was conducted on appropriate tools.

The 4th group, which is the control group comprised of 30 selected subjects. No intervention was given to this group, pre-assessment was conducted on this group and post-

assessment was conducted after 7 weeks on appropriate tools.

**Table 1 : Experimental Groups**

<b>Group</b>	<b>Intervention</b>
<b>Group 1</b>	Positive Psychology based Cognitive Behavior Therapy and mindfulness meditation
<b>Group 2</b>	Cognitive Behavior Therapy
<b>Group 3</b>	Mindfulness meditation
<b>Group 4</b>	Control group

**Statistical Analysis**

The quantitative and qualitative results were analyzed with the appropriate statistical and analytical tools. For quantitative analysis, gathered data was examined with the help of statistical package. Data was examined through inferential and descriptive statistics, using Percentage analysis, Cronbach’s alpha, Chi-square test and Pearson correlation.

the present study results were analyzed. Missing data, outliers and logical checks were performed at first level.

Using SPSS, Frequencies were evaluated in each demographical feature of respondents. Paired sample t- test is conducted in this study for whether there is a significant difference arises among pre and post psychology scales. Independent sample t-test and ANOVA are tested in the data for enumerate whether two or more groups equal or not. Correlation analysis is performed for evaluating the internal relationship among psychology scales. The association between two categorical variables is enumerated by Chi-square test.

**RESULTS**

The data was first entered into an excel files and then exported into SPSS 20.0 version. Thus, using SPSS software

**Table 2: Demographic profile of the study subjects(n=118)**

	<b>Frequency</b>	<b>Percentage (%)*</b>
<b>Gender</b>		
Male	69	59
Female	49	41
Total	118	100
<b>Age group</b>		
Below 30	27	23
31-44	47	40
45-56	36	30
Above 56	8	7
Total	118	100
<b>Group</b>		
Mindfulness	29	25
CBT	29	25

CBT with mindfulness	30	25
Control group	30	25
Total	118	100
<b>Profession</b>		
Employed	77	65
Unemployed	9	8
Student	11	9
Housewife	21	18
Total	118	100

\*Rounded off

Table 2 presents the demographical features of respondents. From this analysis, the majority of the respondents are male (59%) compared to female respondents (41%). When age group is considered, majority of the respondents are in the age between 31 and 44 years followed by, 30 percent of the respondents are 45-56 age groups, 23 percent are below 30 years and finally, 7 percent are above 56 years age group.

Also, equal percent of the respondents participate from each group. That group is as follows: Mindfulness, CBT, and CBT with Mindfulness and Control group. In this study, the majority of the respondents are employed (65%), only a few percent of the respondents are students (9%), a housewife (18%) and unemployed.

**Table 3: Frequency and Percentage of Anxiety scores of respondents for Pre HAMA & Post HAMA Scale group (n=118)**

	<b>Pre HAMA Frequency(Percentage)*</b>	<b>Post HAMA Frequency(Percentage)*</b>
Mild severe	5 (4)	48(41)
Mild to moderate severe	10(9)	41(35)
Moderate to severe	33(28)	18(15)
Very Severe	70(58)	11(9)
Total	118(100)	(118)100

\*Rounded off

The above table is based on the four intervention groups namely, CBT, Mindfulness, CBT+Mindfulness and Control group. It visually interprets that 59 percent of respondents are in very severe condition while before the intervention. But only 9 percent of respondents are in very severe condition while after the intervention. Similarly, 28 percent of respondents are in moderate to severe condition while

before the intervention. But only 15 percent of respondents are in moderate to severe condition while after the intervention. It could be concluded that most of respondents having very severe and moderate to severe condition became a mildly severe after undergoing intervention. This table interprets the efficacy of four interventions among participants.

**Table 4: Frequency and Percentage of distress for Pre SUDS & Post SUDSScale group (n=118)**

	<b>PreSUDS Frequency( Percentage)*</b>	<b>PostSUDS Frequency( Percentage)*</b>
Peace	0(0%)	0(0)
No acute distress	0(0)	(0)
A little bit upset	0(0)	6(5)

Mildly upset	0(0)	9(8)
Somewhat upset	0(0)	25(21)
Moderately upset	4(3)	21(18)
Feeling bad	5(4)	32(27)
Starting to freak out	17(14)	23(19)
Freaking out	42(36)	2(2)
Feeling desperate	36(31)	0(0)
Feels unbearably bad	14(12)	0(0)
Total	118(100)	118(100)

\*Rounded off

Table 4 shows the frequency for Subjective Units of Distress Scale (SUDS) of respondents before and after the intervention. Before intervention majority of the respondents (36%) feel 'Freaking out' followed by, 31 percent of the respondents feel desperate, 14 percent of the respondents are 'Starting to freak out', 12 percent of the respondents feel unbearably bad, 4 percent are feel bad and none of the respondents feel the following SUDS rating scale: 'Somewhat upset', 'Mildly upset', 'A little bit upset', 'No acute distress' and 'Peace'.

After the intervention majority of the respondents (27%) feel bad followed by, 21 percent of the respondents are 'Somewhat upset', 19 percent of the respondents are 'Starting to freak out', 18 percent of the respondents feel moderately upset, 8 percent are feel mildly upset, 5 percent of the respondents are little bit upset and none of the respondents feel the following SUDS rating scale: 'No acute distress', 'Peace', 'Feeling desperate' and 'Feels unbearably bad'.

**Table 5: Correlation analysis between the scales of psychology (n=118)**

Scale		Pre SUDS	Pre QOL	Post HAMA	Post SUDS	Post QOL
<b>Pre HAMA</b>	r-value	0.564	-0.095	0.613	0.526	-0.225
	p-value	0.000**	0.307**	0.000**	0.000**	0.014*
<b>Pre SUDS</b>	r-value		-0.052	0.303	0.484	-0.119
	p-value		0.578	0.001**	0.000**	0.199
<b>Pre QOL</b>	r-value			0.068	-0.107	0.523
	p-value			0.467	0.250	0.000**
<b>Post HAMA</b>	r-value				0.720	-0.352
	p-value				0.000**	0.000**
<b>Post SUDS</b>	r-value					-0.340
	p-value					0.000**

Table 5 shows the correlation analysis between the scales of psychology. From this table, Pre-Hamilton scale is a positively linear relationship with Pre-SUDS ( $r=0.564$ ), Post Hamilton scale ( $r=0.613$ ), Post SUDS ( $r=0.526$ ) and negatively linear relationship with Pre and Post QOL. Similarly, Pre-SUDS is positively linear relationship with Post HAMA ( $r=0.303$ ) and Post SUDS ( $r=0.484$ ). Pre QOL is positively linear relationship with Post QOL ( $r=0.523$ ).

Also, Post Hamilton scale is positively linear relationship with Post SUDS ( $r=0.720$ ) and negatively linear relationship with Post QOL ( $r=-0.352$ ). Finally, Post SUDS is negatively linearity with Post QOL.

Table 6 shows the comparison analysis between the interventions namely, Mindfulness, CBT and CBT+Mindfulness. When considered the mean score of



after intervention, CBT+Mindfulness group have very less mean score (HAMA=11.10, SUDS=3.73) compared to Mindfulness group (HAMA=19.62, SUDS=5.69) and CBT group (HAMA=21.03, SUDS=5.34) based on Hamilton Anxiety Rating scale and Subjective Units of Distress scale. In addition, CBT+Mindfulness group have a high mean

score (QOL=87.07) compared to Mindfulness group (QOL=84.10) and CBT (QOL=83.28) based on Quality of Life scale. It concludes that, CBT+Mindfulness intervention is the best intervention compared with Mindfulness and CBT intervention based on HAMA, SUDS and QOL scores.

**Table 6: Mean and Standard deviation of Interventions based on the HAMA, SUDS and QOL scale**

Scale	Mindfulness		CBT		CBT+Mindfulness	
	Pre	Post	Pre	Post	Pre	Post
	Mean±SD		Mean±SD		Mean±SD	
HAMA	32.86±5.76	19.62±4.24	32.52±5.24	21.03±4.29	28.60±8.45	11.10±4.03
SUDS	8.24±0.95	5.69±1.04	8.24±0.98	5.34±1.14	8.10±1.56	3.73±1.23
QOL	73.86±7.73	84.10±5.19	73.62±5.23	83.28±5.06	72.87±6.21	87.07±3.79

## DISCUSSION

As the previous studies stated that the Mindfulness therapy significantly enhances intellectual skills, improves visuospatial memory and sustained attention, increases the concentration power and working memory [11, 12]. Likewise, the study by Cuijpers, van Straten, Smit, Mihalopoulos, and Beekman [13] stated that CBT allows to the reduction of psychopathology related issues and social functioning.

The present study aimed to study the efficacy of new novel approach 'Positive Psychology based Mindfulness CBT' on adults with generalized anxiety disorder. Thus to treat these psychological disorders and to achieve flourishing state throughout life, various psychological measures were taken, which transcended from a negative emotional state to a state of neutral emotion but the induction of positive emotion or feeling was never given a consideration until recently. Thus, the present study examined the effect of various interventions like CBT intervention, mindfulness intervention and Positive Psychology based Mindfulness CBT, in reducing anxiety and increase the peace.

In the study the participants were subjected to both CBT and mindfulness programs which was compared across all three scales (i.e. HAM-A, SUDS and QOL). When considered the Hamilton scale of respondents, most of the respondents are moderate to severe condition while before intervention, but it is reduce to mild severe in after the CBT and Mindfulness intervention program. In control group, most of the respondents are very severe condition while before intervention and moderate to severe condition while after intervention.

In similar manner when considered the SUDS of respondents, most of the respondents feel 'Freaking out' while before intervention and 'Somewhat upset' while after intervention in CBT and Mindfulness group. But in the control group, most of the respondents feel 'Freaking out' while before intervention and 'bad' stage after intervention. In addition QOL) scale of respondents a significant difference between CBT and Mindfulness and Control

group, which showed that these intervention enhances the Quality of life of the respondents.

## CONCLUSION

From the present study, it can be concluded that both Positive CBT and Mindfulness have positive relation, reduced anxiety and increased peace. The results are more reliable as the three different scales were used to analyze the efficacy of Generalized Anxiety Disorder. Thus from the study it is evident that Positive Psychology based Mindfulness CBT intervention would reduce the anxiety and increases peace.

## LIMITATIONS AND FUTURE SCOPE OF THE STUDY

In the present study the sample size was limited i.e. 118. Therefore, in future, the studies need to be carried out with bigger sample, which support in identifying the exact effect of CBT and Mindfulness therapy. The questionnaire was administered by the researcher, which may be prone to some information errors.

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