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# A COMPREHENSIVE COGNITIVE BEHAVIORAL INTERVENTION IN GENERALIZED ANXIETY DISORDER

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In the present study, a Comprehensive Cognitive Behavioral Model for Generalized Anxiety Disorder (GAD) is proposed and a cognitive behavioral intervention program based on it is developed. The efficacy of CBT in reducing anxiety, in modifying negative cognitions, in controlling worry and in enhancing subjective-wellbeing has been studied on six male clients within the age range 25-40 years, suffering from GAD (ICD=10, F41.1). A single group design with pre, mid and post assessments was adopted; the post-assessment was done by a blind rater. The measures used were (i) Hamilton's Anxiety Rating Scale (ii) Cognitive Somatic Anxiety Questionnaire (iii) Dysfunctional Attitude Scale (iv) Penn State Worry Questionnaire and (v) Subjective-Wellbeing Inventory. CBT was conducted over 25 individual sessions (60-75 minutes duration) spread over 4-6 weeks of which 20 were for therapy and the rest for assessment. Phase-I of therapy consisted of relaxation, while in Phase-II the cognitive components were added. The results of the study showed the efficacy of the intervention program in bringing significant decrease in anxiety, negative cognitions, worry and significant increase in subjective-wellbeing. The cognitive component of therapy was responsible for the statistically significant improvement on specific domains of worry and negative cognitions.

Generalised Anxiety Disorder (GAD) was first introduced in DSM-III (APA, 1980) and has since been recognized as one of the most prevalent and debilitating mental disorders. DSM-IV (APA, 1994) describes GAD as characterised by excessive worry and anxiety, which is difficult to control; physical symptoms like restlessness, fatigability, irritability, muscle tension; all being significantly distressing and causing impairment in normal functioning. Also associated with GAD are distractibility and chronic vigilance to threat cues (Mathews, 1990) and frequent aversive images and thoughts with a marked predominance of chronic verbal linguistic and worrisome activity (Borkovec & Inz, 1990). The spontaneous thoughts involve themes of danger, threat and vulnerability, and are generated by underlying schema or assumptions of a dysfunctional nature (Freeman, Simon, Beutler. & Arkawitz, 1989). The distortions involve overestimation of probability and severity of feared event; and underestimation of coping resources and rescue factors (Shaw & Segal, 1988).

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Beck and Clark (1997) have proposed a 3-stage schema-based information processing model of anxiety. Stage I is that of 'initial registration' of threat stimulus, the processing being perceptual, resulting in an attentional priority to incoming information. Stage II is of 'immediate preparation' involving mixture of automatic and strategic processing. The results are automatic anxious thoughts and biased cognitive processing. Stage III is that of 'secondary elaboration' in which processing is slow, effortful, schema driven and fully conscious, involving the metacognitive mode. Worry and search for safety signals are the important outcomes here. Earlier, it has been viewed as a generalized secondary drive (Dollard & Miller, 1950); as physiological arousal (Schachter & Singer, 1962); as learned helplessness (Seligman, 1972); as lowered hope of success and heightened fear of failure (Heckhausen, 1977); as inability of self growth (May, 1977); as a cognitive hypersensitivity and vigilance (Beck & Emery, 1985). These cognitive-behavioral conceptualizations have culminated into cognitive therapy (Beck & Emery, 1985), Rational Emotive Therapy (Ellis, 1962); Stress Inoculation Training (Meichenbaum, 1985). Behavioral adjuncts like relaxation training and exposure have been incorporated (Chambless & Gillis, 1993).

These therapies have shown moderate improvement with GAD patients. However, they do not contain components tailored to address disorder-specific key features like excessive worry (Brown, Barlow, & Liebowitz, 1994). Borkovec and Costella (1993) conclude that integrative therapy that incorporates techniques targeting each system would enhance efficacy.

In India there are few intervention studies reported and there is a tendency to use cognitive therapy based on the Beckian model. (Biswas, Biswas, & Chattopadhyay, 1995; Pathak, 1999). It is also popular to use Jacobson's progressive muscular relaxation training for management of GAD (Amruthraj, 1989; Biswas et al., 1995). This makes the current work highly relevant.

A comprehensive, although hypothetical, model of GAD is proposed. This is based on evidence available in the literature, and on the insights gained and observations made during clinical practice. The proposed model is presented diagrammatically (Figure 1).

The core tenant of a cognitive basis of anxiety is that the type of emotional information and the manner in which it is processed are crucial factors in the aetiology, maintenance and treatment of anxiety disorders.

The model recognizes that anxiety consists of a complex pattern of cognitive, affective, physiological and behavioral aspects. At the physiological level, there is autonomic hyperarousal. At the behavioral level, there is a tendency to escape or defend oneself against the perceived danger, an inhibition of risk taking behavior in an attempt to maximize safety, and an effort at avoidance. At the subjective or affective level, the individual feels frightened or apprehensive. At the cognitive level, anxiety involves, (a) sensory-perceptual symptoms (e.g. hyper-vigilance, self-consciousness), (b) thinking difficulties (e.g. poor concentration, difficulty in reasoning, inability to control thinking), and (c)

conceptual symptoms (e.g. cognitive distortions, negative automatic thou-

## Figure 1

Generalized Anxiety: A Cognitive Behavioral Model



ghts, worry).

Their interactive processes are as follows:

The internal vulnerability (trait anxiety) of an individual manifests in two ways. There is high autonomic arousability, and there is an acquisition of certain cognitive schemata through early learning experiences with the major socializing agents. This vulnerability is reinforced and maintained from the environmental factors of high expectations and high criticality from the significant others.

The cognitive schemata may be active or dormant, the latter getting activated when faced with a stimulus (internal or external). The cognitive schemata have a two-fold impact on the cognitive processes of the individuals. Firstly, the cognitive appraisal of events is marked by hypervigilance and self consciousness. Secondly, certain information processing proclivities in the form of negative automatic thoughts and cognitive distortions emerge. Both of these processes result in the perception of the environment as threatening. This stage is reinforced by the increased physiological arousal.

As a consequence, in anticipation of future traumatic events, the individual indulges in negatively affect laden, uncontrollable mental problem solving and becomes a worrier.

The high physiological arousal, the information processing proclivities, the perception of threat from the environment, and the worry process, all intensify a fight or flight reaction i.e. an avoidance or escape response to the environmental events. Further, internal attribution of failure and an external attribution of success at this stage culminate in high anxiety.

Anxiety is enhanced by the worry process per se because this compelling problem solving process although may prepare an individual for effective coping, but also maintains a negative affect for greater duration of time in anticipation of the event. Also, the autonomic sensations are interpreted as catastrophic leading to high anxiety levels. The chronic vigilance and consequent perception of threat also maintain high levels of anxiety.

A feedback loop of mutual enhancement comes in play between anxiety and physiological arousal; anxiety and flight-fight reaction which is mediated by the internal attributions; anxiety and worry; and anxiety and perception of threat.

Hence the management of anxiety must focus on resolution of these loops. In other words, the intervention should be focused on (a) the physiological arousal; (b) worry process; (c) cognitive schemata: through the manof negative automatic agement thoughts, cognitive distortions and cognitive appraisal, and the internal attributions; (d) the environmental factors of high expectations and hyper-criticality from significant others, and the avoidance and escape responses of the individuals.

## Rationale

A comprehensive intervention program was developed based on the proposed model and an attempt was made to evaluate its efficacy in the Indian context. Further, an attempt was made to find the impact of behavioral and cognitive components of intervention on various aspects of

anxiety as exhibited especially in GAD is the impact on autonomic arousal, worry, as well as negative automatic thoughts, and cognitive distortions. There was absence of such comprehensive and specific intervention package, especially in the Indian context. The interventions reviewed were also lacking an attempt to study the relative impact of behavioral and cognitive components of therapeutic interventions. By proving the relevance of the model, GAD specific therapy would be propagated. The impact of overall intervention on clients' subjective-wellbeing was also evaluated so that the aim is not just the management of symptoms but also its generalization to positivity in overall life perceptions. The general aim of the current study was, thus, to study the efficacy of proposed cognitive behavioral therapy (CBT) in the management of generalized anxiety disorder (GAD).

#### **Objectives**

To study the efficacy of CBT in (i) reducing anxiety, (ii) modifying the negative cognitions, (iii) controlling worry, and (iv) enhancing the subjective-wellbeing in individuals with GAD.

Further, the additive effect of cognitive components of intervention on measures of anxiety was also explored.

#### Hypotheses

- 1. It is expected that CBT would significantly reduce anxiety in individuals with GAD.
- 2. It is expected that CBT would significantly modify the negative

cognitions in individuals with GAD.

- 3. It is expected that CBT would significantly control worry in individuals with GAD.
- 4. It is expected that CBT would significantly enhance the subjective-wellbeing in individuals with GAD.
- 5. It is expected that the addition of cognitive components of CBT would have significant additive impact on anxiety, modifying the negative cognitions, controlling worry, enhancing subjective-wellbeing in individuals with GAD.

## Method

## Sample

The clients for the study were referred to the Behavioral Medicine Unit, Department of Clinical Psychology, National Institute of Mental Health and Neurosciences (NIM-HANS), Bangalore. From the psychiatry out-patient department of NIM-HANS, six clients with GAD (ICD-10: F41.1; WHO, 1992b) meeting the following inclusion and exclusion criteria were included in the sample.

#### Inclusion Criteria

- 1. Age between 16-50 years.
- 2. Ability to understand English.
- Diagnosis of Generalised Anxiety Disorder (ICD-10: F41.1; WHO, 1992b).

#### **Exclusion** Criteria

1. A concurrent clinical diagnosis of

psychosis, organic brain syndrome, or mental retardation.

- 2. History of major medical disorders.
- 3. Previous exposure to psychological intervention.

The final sample consisted of six males with a mean age of 33 years (SD = 5.6 years). All of them belonged to middle class with three of them bachelors. Sample had a mean of 3.2 years of illness with SD of 1.5 years. Two of them had

concurrent drug therapy. Three of the patients were engineers and two others were graduates. The range in case of age was 25-40 years while illness range was 2-5 years.

## Design

In the present study, a single group outcome design with pre, mid, and post therapy assessments was adopted. The post-assessment was conducted by a blind rater.

## Table 1

Effect of CBT on Measures of Anxiety, Cognition, Worry and Subjective-Wellbeing (N=6)

Variables		М	SD	t	р	
HARS						
	Pre	34.2	6.2			
	Post	9.3	6.8	6.68	.001	
CSAQ-Cognitive						
	Pre	26.8	2.9			
	Post	15.2	6.2	5.59	.01	
CSAQ-Somatic						
	Pre	20.5	5.2			
	Post	11.8	2.9	3.94	.01	
DAS						
	Pre	147.6	21			
	Post	103.4	16.3	5.10	.007	
PSWQ						
	Pre	62.8	4.8			
	Post	42.8	5.8	5.49	.003	
SWB $(n = 5)$						
	Pre	75.2	9.8			
	Post	93.0	7.7	3.15	.03	

df = 5.

# Figure 2

Flow Chart of the Experimental Design

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-	
No >	Other treatment given/ referred back
	1
- >	Administration of tools 1 to 5 by the therapist
-	
>	10 sessions
-	
>	Administration of tools 1 to 5 by the therapist
>	One session
>	Two sessions
·	
>	Two sessions
. •	
'>	Two sessions
e.	
>	Two sessions
>	One session
55405 114	
>	Administration of tools 1 to 5 by a blind rater
	No

The experimental design used is

illustrated in Figure 2 (Flow chart).

## Instruments

The following tools were used to evaluate the impact of the intervention:

1. Hamilton's Anxiety Rating Scale (Hamilton, 1959)

HARS is a five point rating scale consisting of 13 variables providing an anxiety score. It distinguishes between normal scores, and those indicative of minor and major anxiety. It has an inter-rater reliability of .89.

 Cognitive Somatic Anxiety Questionnaire (Schwartz, Davidson, & Goleman, 1978)

CSAQ is a 14 item, 5-point questionnaire on anxiety symptoms with randomly ordered cognitive and somatic subscales. Cronbach alpha coefficient is .85 and .81 for the two subscales, respectively. The correlation between subscales is .42; and they exhibit adequate construct and discriminant validity.

## 3. Dysfunctional Attitude Scale (Weissman & Beck, 1978)

DAS is a 40 item, 7-point selfadministered scale that assesses cognitive distortions with items representing 7 major value systems; namely, approval, love, achievement, perfectionism, entitlement, omnipotence and autonomy. It provides the cut-off score indicating significant dysfunctional attitudes. Its Cronbach alpha is .86 and testretest reliability is .84.

## Penn State Worry Questionnaire (Meyer, Miller, Metze, & Borkovec, 1990)

PSWQ is a 15 item, 5-point scale to identify frequency and intensity of worrying. It assesses for establishing clinical worry or trait of worry. Its internal consistency ranges between .91 and .95 and has test-retest reliability of .93. It has good construct and discriminant validity.

# 5. Subjective-Wellbeing Inventory (WHO, 1992a)

SWB is a 40 item self-report questionnaire designed to measure feelings of well-being or the lack of it as experienced in day-to-day concerns. The items represent 11 factors including positive and negative affect; confidence in coping; transcendence; family and social support; mental imagery; perceived ill health; and expectation-achievement congruence. The Cronbach alpha is .88 and has good construct and discriminant validity.

The scales were in simple language and had been used with Indian population in earlier studies and no difficulties had been reported.

## Procedure

#### Process of Therapy

The treatment was given over about 25 sessions which extended over a period of 4-6 weeks, each session lasting for about 60-75 minutes. Of these 20 sessions were of therapy while rest was for assessment purposes.

#### Intake Interview

The purpose of this interview was to establish rapport with the clients as well as to assess the suitability for inclusion in the study. The clients found unsuitable were either re-referred to the referral source or were treated by the team at the behavioral medicine unit. In all 23 clients were screened. Of these 4 were not willing to undergo CBT but chose pure pharmacotherapy, 6 clients could not come due to long distance and economic constraints. 7 clients had co-morbid conditions, 6 clients could be included in the study. The client considered suitable for the study was told that the entire program involved 20 sessions of therapy with assessment sessions before, during, and after therapy to monitor progress. The first 10 sessions would be daily and that would constitute the phase-I of therapy and the next 10 sessions would comprise the phase-II of therapy. The clients' cooperation and active participation in the program would determine the success of the treatment. The written informed consent for therapy was obtained.

The next session was spent on pre-assessment. The 2nd session comprised of a brief explanation to the client, about the nature of anxiety and its manifestations. The diagnosis of GAD, and the rationale for the present treatment was briefly described. In the next session patients were explained the rationale for Jacobson's Progressive Muscular Relaxation (JPMR) and it was demonstrated to them. Over the next 9 sessions clients learned to use it.

This was followed by the midassessment by the therapist.

In the phase-II of therapy, the focus was on identifying and dealing with the cognitive components of anxiety, while patients continued to practice relaxation at home. The clients' active participation in making attempts at applying the relaxation skills and the cognitive coping skills, in order to overcome daily stressful situations was ensured. Compliance to homework assignments was ensured. The first session was spent in a detailed explanation of anxiety and its cause and GAD. The handout was also

given to the clients.

The next two sessions of this phase were spent on identification and handling of negative automatic thoughts. These sessions had components of rapport building, ventilation, emphasizing and consolidation of the therapeutic alliance.

The 4th and 5th sessions were spent on identifying and dealing with worry.

The 6th and 7th sessions were spent on dealing with cognitive distortions.

The 8th and 9th sessions were spent in discussing specific problems of the patient in light of skills acquired in the earlier sessions. Problem solving, role-play and behavioral rehearsal were incorporated here, as per individual needs.

10th session comprised of a discussion on some of the dysfunctional attitudes identified on DAS. Further, the session was utilized for any clarifications that the patient may need.

This was followed by a postassessment done by a blind rater.

#### Ethical Issues

- 1. Patients were explained about the current study.
- 2. Written informed consent was taken.
- 3. Confidentiality was ensured.
- 4. Patients had the freedom to drop out of the intervention program.

## Results

Pre- and post-assessment scores were compared for statistical significance in the group outcome analysis. Pre, mid and post assessment scores were compared to identify the changes brought about by the addition of the cognitive component to the treatment. Clients' self report about the changes in their symptoms, and generalization to different spheres in life were analyzed. For the above analysis, statistical significance was computed using the paired *t*-test.

As shown in Table 1, there was statistically significant decline noted on measures of anxiety, negative cognitions and worry; and statistically significant increase of scores on the measure of subjectivewellbeing. The improvement on cognitive functions was evident only after the addition of cognitive component of therapy (Table 1). Anxiety

The results showed statistically significant improvement on the measures of anxiety, namely. CSAQ-cognitive HARS. and CSAO-somatic at post-therapy assessment. This is in accordance with the results of Muthana (1994) on similar measures of anxiety, using JPMR and stress inoculation training, on Indian population. Lang (2004), Borkovec and Mathews (1998), and Barlow, Rapee, and Brown (1992) also reported similar findings.

These results may be explained by the fact that all the response channels of anxiety, namely, the affective autonomic, somatic behavioral and cognitive (Suinn, 1984) were targeted in the treatment program. JPMR resulted in controlling the physiological symptoms through the recognition and release of minute amounts of tension, utilizing the feedback loop between skeleton muscles and the central nervous system through progressive muscular relaxation (Jacobson, 1938 as cited in Keable, 1989). The heightened arousal of sympathetic nervous system was replaced by the relaxation sensation of the parasympathetic nervous system. The cognitive restructuring resulted in modification of dysfunctional attitudes, which maintain anxiety (Beck & Emery, 1985) through misperception of threat (Barlow & Rapee, 1991).

Further, worry maintains anxiety through the inhibition of the

## Table 2

Additive	Effects	of C	<i>lognitive</i>	Com	ponent d	of Thera	ıpy
		•/				./	

Variables	Pha (Pre v	ase-I s. Mid)	Phase-II (Mid vs. Post)	
	t	р	t	р
HARS	8.41	.0001	4.65	.006
CSAQ-C	1.32	.24	2.34	.06
CSAQ-S	2.70	.04	2.83	.03
PSWQ	1.36	.23	3.69	.05
DAS	1.99	.10	4.10	.01
SWB	2.43	.59	2.20	.05

emotional processing (Borkovec, Abel, & Newman, 1995). Thus, handling of worry dealt with another maintaining factor.

## Cognitions

Following the intervention, there was statistically significant reduction in negative cognitions. Arntz, Hildebrand, and Vanden Hout (1994) reported decrease in dysfunctional beliefs after the cognitive treatment in GAD clients. These findings are similar to the results of the study by Butler, Fennell, Robson, and Gelder (1991), and those of Dugas, Marchand, and Ladouceur (2005).

Negative cognitions are perceptions based on beliefs and assumptions which are dysfunctional. The basic distortions involve overestimation of feared event and underestimation of coping resources (Shaw & Segal, 1988). The biased cognitive processing, resulting in negative cognitions is based on both automatic and strategic processing (Beck & Clark, 1997), and on intolerance of uncertainty and cognitive avoidance (Dugas, Marchand, & Ladouceur, 2005). The therapy, thus, must aim at deactivation of the primal threat mode and the strengthening of a more reflective, constructive elaborative processing (Beck & Clark, 1997), which was achieved in the present study through teaching the client to identify and handle negative automatic thoughts, cognitive distortions and schema. Further, it was strengthened through role play and homework assignments.

#### Worry

The results of the present study also show statistically significant control in worry at post-assessment. These results are similar to the findings of Borkovec and Costello (1993) who reported reduction in worry after CBT in GAD clients. Barlow, Rapee, and Brown (1992) had also reported similar results using self-monitored measure of worry. Worry management was the significant goal in treatment in the meta-cognitive therapy for GAD recommended by Wells and King (2006).

Worry is the final stage of information processing involving schema driven, effortful and conscious, metacognitive process. It is the search for safety signals (Beck & Clark, 1997) which is similar to those of nonanxious subjects in its content, but differs in its controllability (Borkovec, 1992). Thus, the program helped the clients to develop control over these cognitive intrusions, by methods like worry-period, which incubates these negative cognitive intrusions (Borkovec, 1992). Further, problem solving techniques, role-playing and homework assignments, and continued positive reinforcements, helped the clients overcome the inherent poor problem solving confidence and poor perceived control over the problem solving process which is a characteristic of the worriers (Davey, 1994). It also dealt with the positive beliefs about worry which is one of the main features of GAD (Dugas, Marchand, & Ladouceur, 2005).

## Subjective-Wellbeing

In the present study, statistically significant improvement in the subjective-wellbeing was reported at posttherapy assessment. Butler et al. (1991) have shown improvement in confidence and demoralization treatment with CBT. With a view to restore normal functioning and achieve sustained recovery in GAD clients, Fava et al., (2005) have used Wellbeing Therapy for four sessions in their CBT of 12 sessions in treating GAD. However, while highlighting its significance, Allgulander et al., (2003) take it as inherent part of any CBT treatments.

While handling the specific domains of GAD, such components of subjective-wellbeing, like confidence in coping, inadequate mental mastery, perceived ill-health and deficiency in social contracts were automatically being handled. The perception of social and primary group concern and support also improved through handling of dysfunctional attitudes. As the sense of self-control and sense of mastery over the cognitions and worry acquired. the expectationwas achievement congruence also improved. Borkovec, Abel, and Newman (1995) reported that elimination of worry allows for the natural emergence of adaptive new learning, not only in therapy, but also in daily living experience. This would indicate improved subjective-wellbeing.

Thus, the findings of the present study indicate the efficacy of CBT in the treatment of clients with GAD. The intervention package formulated dealt with the specific components of GAD, namely, anxiety, negative cognitions and worry. The study, therefore, overcame a major drawback of earlier studies which had failed to address disorder specific key features like worry (Brown, Barlow, & Liebowitz, 1994). The study also highlighted low levels of subjectivewellbeing in clients with GAD; and the enhancing effect of the intervention program on the same. This aspect has not received adequate attention in the earlier studies, although WHO (1992a) has proclaimed it as an essential component of health.

# Additive effect of cognitive component of therapy

An important consideration in the study was to assess the effect of cognitive component of therapy. The phase-I of therapy, comprising of pure relaxation training (JPMR), lead to a decrease primarily in the somatic symptoms. This is in accordance with the results of numerous studies in the 1980's (cited from Zinbarg, Barlow, Brown, Brown, & Hertz, 1992). Significant improvement in modifying negative cognitions and worry could be accorded only in the phase-II of therapy where the cognitive component was added in the therapy, although the improvement made in phase-I was continued in phase-II on the physiological and somatic aspects.

These findings are in accordance with the study done using biofeedback relaxation and stress inoculation training paradigm by Abraham and Kumaraiah (1993) on the Indian population. Biswas and Chattopadhyay (2000) found cognitive therapy effective in improving patients suffering from GAD on psychological as well as psycho-physiological measures of anxiety. Butler et al. (1991) have reported superiority of pure cognitive therapy over a behavior therapy package. Borkovec and Costello (1993) have reported better improvement in GAD clients with CBT than with applied relaxation alone.

However, Borkovec and Mathews (1988) and Barlow, Rapee, and Brown (1992) found no significant difference between relaxation, and its combination with cognitive therapy, nondirective counseling, or coping desensitization. The importance of cognitive component in CBT with GAD has been observed but differences have been inconsistently reported (Harvey & Rapee, 1995).

The inconsistency in the literature regarding the relative efficacy of behavior therapy and CBT may be considered in the light of the results of the present study. The study shows that significant improvement of all the specific domains of GAD can be accorded only through a CBT paradigm. Relaxation brings down the physiological symptoms, and increases the accessibility of positive information in memory which facilitates the generation of alternatives to the negative thoughts (Peveler & Johnston, 1986). However, as evident in the study, relaxation alone is not sufficient for the management of all domains of GAD. The clients also need to acquire methods to generate positive alternative thoughts (Freeman, Simon, Beutler, & Arkawitz, 1989) through cognitive restructuring. Thus, the most efficacious treatment may be a combination of the two, i.e., a cognitive behavioral program. Further, it lays to rest the doubts by researchers like Haby, Donnelly, Corry, and Vos (2006) that CBT may not be effective for non-English speaking patient groups. The package used for our clients was in Hindi and the illustrations used in therapy were culture specific while the cognitive paradigm was naturally universal.

## Discussion

## Subjective Experiences of the Clients

The clients' perception of their

problem for which they had sought the treatment was varied. Although the major manifestation was predominately that of physiological arousal and somatic complaints, their explanations varied from brain tumor and brain damage to an inability to name the cause. One client's primary concern was the erectile dysfunction which was secondary to GAD, while another client had severe insomnia and disrupted occupational functioning.

At termination, the symptoms of primary concern had disappeared. The physiological symptoms ranging from dryness of mouth to tremors, stammering to lack of concentration and "loss of memory", had all improved markedly. Fear of death; fear of abnormality in wife's pregnancy; fear of never clearing the exams; shame and guilt associated with broken engagement, shame and guilt associated with inadequate sexual performance; and anger and frustration towards the family, are some of the important cognitions, successfully dealt through cognitive restructuring during the course of therapy. At termination, all clients reported marked improvement in their symptomatology, the symptoms no longer being disruptive and distressing. On the visual analogue scale, the reported improvement ranged between 70-90% for four clients. 60-70% for one and 40-50% in another. In four of the clients it was confirmed by the family while the families of two could not be contacted.

There was marked generalizability in the improvement. The sociooccupational functioning improved markedly, with three clients resuming their higher educational pursuits and three were planning on newer, more productive occupations. These were realistic and practical plans reached through good problem solving skills. One client, whose occupational functioning was impaired, resumed work and performed adequately. The frequency and degree of involvement in interpersonal contacts was reported to be markedly improved, as also was the personal sense of satisfaction from it. There was marked improvement in the reported sense of control and ability to cope with ongoing chronic stressors. Five of the six clients reported high self confidence and a positive view of future, at termination.

At follow-up of 3-8 weeks, there was enhancement in the reported improvement, with two clients reported 95% improvement, while the others reported upto 70-80% improvement.

Thus, the client's subjective reports also indicate the efficacy of the treatment program in the management of GAD.

#### Individual Differences

Although fairly homogenous data trends were observed in the group, some individual differences emerged.

Client 1 showed a slight increase in the scores of worry and cognitive anxiety at the end of the phase-I of therapy. This is attributable to the fact that the rapport had improved over the first few sessions, and hence the client was more forthcoming about his symptoms.

Client 5 had a strong denial for his negative cognitions and believed in the medical model of his problems. Thus, after phase-II of therapy, when he gained insight into the psychological nature of his symptoms, there was a mild increase in the cognitive and somatic anxiety, and worry from midto post-therapy assessment. However, there was significant improvement from pre to post therapy assessment. A mild decrease in subjectivewellbeing also occurred, although it remained in the normal range. The negative cognitions improved significantly but were above the cut-off. He reported 60% improvement at termination, which had increased to 80% at 7-week follow-up.

Client 6 had a strong denial for his problems, there were fluctuations in the level of motivation, and he was irregular for the sessions and for home-work assignments. He also had tinnitus with which he was preoccupied. Further, there were significant psychosocial problems which affected his active participation in the therapeutic program. He showed significant improvement on all measures except cognitive anxiety. He reported 40-50% improvement at 8-week followup. However, he expressed dissatisfaction with the therapy, as he continued to be preoccupied with tinnitus; and refused to complete the postassessment as an expression of dissatisfaction. This is in accordance with the conclusions given by Borkovec, Abel, and Newman (1995). They state that individuals with GAD, who are currently experiencing a significant stressor, or those with characteristic features of anger and entitlement, respond poorly to cognitive behavior therapy. Also, the efforts towards defocusing on and adaptation to tinnitus were taken as being critical towards his area of primary concern. Consultation with ENT department was perceived as efforts towards warding off the responsibility of his problem. It may be seen in context of Steketee, Lam, Chambless, Rodebaugh, and McCullouch (2007) when they state that patients being treated for anxiety and depression, when perceive criticism in managing the symptoms, it gets related to negative affect and discomfort during behavioral treatment through exposure. Further, Zinbarg, Eun Lee, and Lira Yoon (2006) reported that in GAD patients' pretreatment partner hostility and hostile criticism had statistically and clinically significant impact on outcome in CBT. In the present client, his reporting regarding his wife fitted well into the above criteria.

Thus the present study showed the efficacy of CBT in treatment of GAD clients. There was statistically significant improvement on all the components of GAD, namely, anxiety, negative cognitions and worry. Further, there is an enhancement in the resubjective-wellbeing. ported The study also highlights the importance of the addition of a cognitive component in therapy for best outcome. There is an indication that the degree of improvement may be affected by client's perception of the therapeutic program, and consequently, his degree of involvement. The gains were reported to have generalized and improved at follow-up.

## Limitations and Recommendations

Generalizability of the results is limited as the sample size was small and the follow-up was limited. The intervention was highly effective, and being based on the proposed model, provides it with preliminary validation. The model may now be used on a representative large sample and its generalizability can be established. In the present study, the clients were educated and hence the scales in English could be used. However, they will need to be modified before using in the clinic. Moreover, there is a strong need to develop Indian scales, especially those evaluating cognitive distortions and worry.

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