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Application of Cognitive Behavioral Therapy (CBT) for Illness Anxiety Disorder (IAD)

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ABSTRACT

Background: Illness anxiety or Hypochondria disorder (IAD) involves intense health anxiety, leading to misinterpretation of normal sensations as serious illness. This causes social withdrawal, strained relationships, and diminished quality of life due to persistent distress.

Aim: To explore the efficacy of Cognitive Behavioral Therapy (CBT) on the severity of Somatosensory amplifications, health anxiety, social functioning and Quality of life in patients with IAD.

Methods: A Quasi- Experimental study (Pretest-Posttest Control Group Design) was conducted on 80 patients with Hypochondriacal Disorder with Mean age 36 years. The average duration of hypochondriacal disorder was reported as 2.7 years. These patients were randomly assigned to experimental(n=40) or control groups (n=40). The experimental group received CBT sessions focusing on concerned symptoms along with treatment-as-usual (TAU) whereas the control group received no such intervention combined with only TAU. Data was analyzed under t-tests (Paired & Independent).

Results: A significant reduction in somatosensory amplifications, health anxiety, and improvement in social functioning, along with an improvement in quality of life, following CBT was reported in patients with IAD.

Conclusion: Cognitive Behavioral Therapy (CBT) is an effective complementary approach alongside standard medical treatment for patients with IAD.

Keywords: Hypochondria, Illness Anxiety Disorder (IAD), Somatosensory Amplifications, Health Anxiety, Social Functioning, Quality Of Life

INTRODUCTION

Illness anxiety disorder (IAD) is a relatively new diagnosis, as it was first published in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) in 2013. Illness anxiety disorder (DSM-5), earlier known as hypochondriasis (DSM-3), is a psychiatric disorder, typically a chronic disorder defined by excessive worry about having or developing a serious undiagnosed medical condition. People with an illness anxiety disorder (IAD) experience persistent anxiety or fear of developing or having a serious medical illness that adversely affects their daily functioning or life. People suffering from IAD give excessive attention to normal bodily sensations (such as digestion or sweating) and misinterpret these sensations as indicators of severe disease.

Due to the novelty of IAD diagnosis, the prevalence of IAD is largely unknown as inconsistent with

hypochondria. The estimated prevalence of IAD in the medical outpatient environment is about 0.75%, and in the general population, it is about 0.1%. IAD is common in adolescents with no gender preponderance, and it typically worsens with age. However, it is more common in unemployed and less educated persons (French et al., 2023).

IAD is a substantial burden in society. Despite its unclear facts about whether it needs to be considered as an anxiety disorder or it is distinct from Somatic Symptom Disorder. Literature provides evidence that Cognitive behavioral therapy (CBT) is an effective treatment for IAD (Kikas, et al., 2024).

Cognitive Behavioral Therapy (CBT) is a well-established and effective form of psychological treatment that emphasizes the link between thoughts, emotions, and behaviors. It operates on the belief that individuals' perceptions of situations shape their feelings and influence their actions. The goal of CBT is to help individuals recognize and change negative or distorted thought patterns and behaviors, fostering healthier emotional and behavioral outcomes. CBT developed by Aaron Beck in the 1960s, CBT has since diversified into various approaches and applications, becoming one of the most thoroughly researched and widely practiced forms of psychotherapy worldwide. Previous research has consistently shown that CBT is effective in treating a range of mental health disorders such as depression, anxiety, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD) (Nicoară, et al.,, 2023 ; Hofmann, *et al., 2012).* Studies have found that CBT often leads to lasting improvements in symptoms and overall functioning, with outcomes that are frequently comparable to, or even surpass, those of other psychotherapies and, in some cases, medication. For example, a meta-analysis by Butler et al. (2006) found that CBT significantly reduced symptoms of depression, with lasting benefits that persisted beyond the end of treatment. Similarly, a meta-analysis by Hofmann et al. (2012) underscored the effectiveness of CBT in treating anxiety disorders, highlighting its superiority over other forms of psychotherapy. Using Philosophical principles of CBT, Cognitive Restructuring: (Beck,, 1976) suggests that individuals' emotions and behaviors are shaped by their cognitive processes, including their thoughts, beliefs, and perceptions. Cognitive restructuring, a core technique in CBT, involves identifying and challenging negative or irrational thought patterns, replacing them with more adaptive and rational alternatives. The goal of this process is to modify dysfunctional beliefs and cognitive distortions that contribute to psychological distress. Further, Behavioral Activation: (Jacobson, N. S., Martell, C. R, & Dimidjian, 2001) principle highlights the impact of behavior on emotional well-being. It encourages clients to participate in activities that foster a sense of achievement, pleasure, and mastery. Behavioral activation, a key component, seeks to reduce the avoidance and withdrawal behaviors commonly seen in mood disorders like depression. The prevalence of hypochondriasis is reported to be between 0.02% and 7% in general population studies and between 0.8% and 8.5% in primary care studies (Regier, Kuhl, & Kupfer, 2013).

In aforementioned context, in the present study an effort has been made to validate the efficacy of CBT over IAD using pretest-posttest control group design.

METHODOLOGY

Aim: To explore the effect of Application of Cognitive Behavioral Therapy (CBT) on severity of Somatosensory Amplifications, health anxiety, Social Functioning and Quality of life.

Study Design: Quasi- experimental study (Pre-posttest control group design)

Sample: The sample for the study consisted of 80 patients diagnosed with Hypochondriasis Disorder as per ICD-10 DCR (WHO, 1993). The inclusion and exclusion criteria to select the patients in the sample are described below (Table 1). The study was conducted at Balrampur hospital, Lucknow. The selected Patients are randomly assigned to experimental and control groups based on the patient at the OPD.

Table 1: Inclusion & Exclusion Criteria of Sample Selection

Inclusion criteria	Exclusion criteria
Patients diagnosed as having Hypochondriacal Disorder according to ICD- 10 DCR. Patients aged between 18 to 50 years. Able to speak and understand Hindi/English language. Able to provide informed consent. Patients with duration of disorder till 5 years. Both In - Patient (IPD) and Out - Patient (OPD) patients Patients on treatment as usual	Patients with any other chronic physical conditions such as diabetes, cancer etc. Patients with substance dependence with or without psychotic symptoms. Patients with other comorbid psychiatric diagnosis OCD, anxiety and depression. Patient having organic illness. Patients should not be part of any other psychotherapeutic process.

Measures

Socio-Demographic and Clinical Data Sheet

A semi-structured form would be prepared to collect the personal details of the patient like name, age, gender, education, occupation, etc. The clinical data sheet would be used to collect the information about the illness of the patient, course, progress, mode, duration of the illness, etc.

Somatosensory Amplification Scale (Barsky, Wyshak, & Klerman, 1990)

SSAS is a 10 item self-report questionnaire about how much patients are preoccupied by various symptoms and sensations including somatic sensations. These items are scored on a five-point scale range from 1(not at all) to 5 (extremely) with higher scores indicating greater somatosensory amplification. Test-retest reliability of this scale is 0.79 (P = 0.0001) and the internal consistency is 0.82 (Cronbach's alpha).

Short Health Anxiety Inventory (SHAI; Salkovskis et al., 2002)

The SHAI contains 18 items that assess health anxiety independently of physical health status. Items assess worry about health, awareness of bodily sensations or changes, and feared consequences of having an illness. The reliability (α=.89). Each item is scored on a scale from 0-3 (i.e. a=0, b=1, c=2, d=3).

Social Functioning Questionnaire (Tyrer et al., 2005)

The SFQ is an eight-item scale that assesses social functioning in the following domains: work and home tasks, financial concerns, familial relationships, sexual activities, social contacts, and spare time activities. Each of the 8 items of the SFQ is scored on a four-point scale (0-3) with a total possible score of 24. The SFQ has good reliability and construct validity.

World Health Organization Quality-of-Life Scale (WHOQOL) (WHO,1995)

The WHOQOL-BREF is a 26-item instrument consisting of four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items); Each individual item of the WHOQOL-BREF is scored from 1 to 5 on a response scale, which is stipulated as a five-point ordinal scale. The scores are then transformed linearly to a 0–100-scale. Internal consistency Cronbach alpha values for each of the four domain scores ranged from 0±66 (for domain 3) to 0±84 (for domain 1), demonstrating good internal consistency.

CBT Therapeutic Package

The therapy consists of each session of 45-60 minutes duration. The sessions would be conducted twice in a week. Each patient in the experimental group receives 13 individual sessions in total. The whole package, activities and

procedures were kept identical and homogenous for all the 40 patients. The techniques were chosen from Cognitive Behavioural Techniques of CBT, A Practice Manual and Conceptual Guide of cognitive therapy by Adrian Wells which were more relevant in the context of dependent variables.

During the training for each technique, the therapist used pie charts, diagrams and events portrayed in images to demonstrate how the particular technique can be chosen and effectively implemented to handle the Anxiety about health, bias toward illness threat, reassurance seeking to allay health anxiety and hypersensitivity to somatic symptoms. Best efforts were retained to keep each patient involved and attain best of their capabilities.

- **The initial phase** of the therapy included rapport building and psychoeducation of the patient about illness and explaining the treatment process and the assessment.
- **The middle phase** focused on improving health anxious episodes, background health preoccupation, socialization, compulsive behavior, and cognitive restructuring.
- **Post assessment phase** included the summarization about the previous sessions, reviewing the progress and feedback from the patient.

Procedure

Present study would be approved by the Institutional Ethical committee of Shree Guru Gobind Singh Tricentenary University. A preliminary clinical interview by a senior psychiatrist will be conducted to confirm the diagnosis of Hypochondriasis Disorder as per ICD-10 DCR (WHO, 1993) and to evaluate the presence of other psychiatric disorders before the admission of participants to the treatment. After explaining the objective of the study informed consent will be taken. To work towards the hypothesis of the study the participants will be selected based on the inclusion and exclusion criteria. The socio-demographic and clinical details will be collected using socio-demographic and clinical data sheets. Before starting the therapeutic intervention, a baseline assessment including measurement of Somatosensory amplification scale, Short Health Anxiety Inventory, social functioning questionnaire, and WHO quality of life. Thereafter, therapeutic package of CBT Techniques would be applied among the patients of the experimental group in 13 (twice a week) – 90 minutes' individual sessions for duration of 2 months with their Treatment as usual (TAU). The patients in the control group will be only on their TAU. After the successful completion of 13 CBT sessions for the experimental group, both the groups will be assessed on the same measure for post treatment scores.

Table 2: Treatment as usual (TAU)

Problem	Medicine
Sleep Problem	Clonotril 0.5 mg
Anxiety/Panic Attack	Paroxee CR 12.5 mg Clonotril 0.5 mg
Somatic Symptoms	Clonotril 0.5 mg Duzela 20 mg

Statistics Analysis

Statistical analysis was done using SPSS v 29.0. Descriptive statistics as well as Inferential statistics including (Paired 't' test, and independent sample 't' test) were used to achieve the objectives of the study.

Results

The present study was aimed to explore the effect of Cognitive behavior therapy (CBT) on the level of severity of somatosensory amplifications, health anxiety, social functioning, and quality of life in patients with hypochondriasis disorder. Results are presented below:

Table 3: Descriptive Statistics for Socio-demographic Variables (n=80).

Socio-demographic Variables Mean ±SD	Experimental Group (n=40) Mean ±SD	Control Group (n=40)
Age (in Years)	36.00±8.28	32.05±7.31
Education (in Years)	12.70±2.43	13.40±2.66
Duration of Illness (in Months)	33.17±12.01	32.55±11.35

This table 3 provides a summary of socio-demographic characteristics for participants in the experimental and control groups. For age, the experimental group has a mean age of 36.00 years (SD = 8.28)., whereas, the control group has a mean age of 32.05 years (SD = 7.31). The mean duration of illness reported for the experimental group is 33.17 months (SD = 12.01), whereas for the control group it is 32.55 months (SD = 11.35).

Table 4: Comparison of pre and post treatment scores for the experimental group (n=40).

Measures	Pre-test n=40 Mean ±SD	Post-test n=40 Mean ±SD	t-Values	df	p
Somatosensory Amplification	42.00±1.86	30.52±1.64	40.06	39	0.001
Health Anxiety	33.40±1.86	19.55±2.43	89.81	39	0.001
Negative Consequences	09.72±1.51	05.67±1.52	30.28	39	0.001
Social Functioning	20.02±1.45	12.10±1.46	105.66	39	0.001
WHO Quality of Life					
Physical Health	14.22±2.29	20.70±1.80	22.78	39	0.001
Psychological	13.70±1.75	17.95±1.79	18.15	39	0.001
Social Relationship	5.47±1.51	9.35±1.35	24.70	39	0.001
Environment	16.75±2.74	23.97±2.52	26.84	39	0.001

This table 4 presents pre-test and post-test results for participants in the experimental group (n=40) across various psychological and quality of life measures. The measures indicating significant changes from pretest to post-test by revealing t-values (paired) for somatosensory amplification (t-value = 40.06, $p < 0.001$), Health Anxiety (t-value = 89.81, $p < 0.001$), Negative Consequences:(t-value = 30.28, $p < 0.001$), Social Functioning (t-value = 105.66, $p < 0.001$), WHO Quality of Life Measures which includes aspects such as Physical Health (t-value = 22.78, $p < 0.001$), Psychological Health (t-value = 18.15, $p < 0.001$), Social Relationships:(t-value = 24.70, $p < 0.001$), Environment (t-value = 26.84, $p < 0.001$). The finding disclosed that there is a significant reduction in somatosensory amplification after the intervention, suggesting decreased sensitivity to bodily sensations. Health anxiety decreased significantly following the intervention, indicating a lower level of anxiety related to health concerns. The improvement in social functioning and QoL further suggest improvement in respective concerns.

Overall, the finding suggests that the intervention was highly effective in reducing somatic and psychological distress and enhancing overall quality of life in the experimental group.

Table 5: Comparison of the pre and post treatment scores for the control group (n=40).

Measures	Pre-test n=40	Post-test n=40	t-Values	df	p
	Mean ±SD	Mean ±SD			
Somatosensory Amplification	43.55±2.34	42.62±3.15	1.72	39	0.04
Health Anxiety	33.95±2.91	33.80±3.08	.25	39	0.40
Negative Consequences	9.30±1.98	9.70±1.80	1.02	39	0.15
Social Functioning	20.27±1.48	20.52±1.46	0.80	39	0.21
WHO Quality of Life's					
Physical Health	18.17±1.98	18.07±2.09	0.20	39	0.41
Psychological	14.90±3.31	14.82±2.35	0.12	39	0.45
Social Relationship	6.52±1.82	6.47±1.35	0.13	39	0.44
Environment	17.02±3.87	16.75±3.26	0.36	39	0.35

This table 5 presents data for a control group (n = 40) on various psychological measures, comparing scores between pretest and posttest time points. The results show no significant changes in Somatosensory Amplification ($t = 1.72$, $p > 0.04$), Health Anxiety ($t = 0.25$, $p > 0.40$), Negative Consequences ($t = 1.02$, $p > 0.15$), or Social Functioning ($t = 0.80$, $p > 0.21$). Similarly, no changes were observed in the WHO Quality of Life domains, including Physical Health ($t = 0.20$, $p > 0.41$), Psychological Health ($t = 0.12$, $p > 0.45$), Social Relationships ($t = 0.13$, $p > 0.44$), and Environment ($t = 0.36$, $p > 0.35$). In summary, the control group showed minimal or no changes across all measures, consistent with the absence of CBT intervention.

Table 6: Comparison of experimental and control groups (N=80).

Measures	Pre-test n=40	Post-test n=40	t-Values	df	p
	Mean ±SD	Mean ±SD			
Somatosensory Amplification	43.55±2.34	42.62±3.15	1.72	39	0.04
Health Anxiety	33.95±2.91	33.80±3.08	.25	39	0.40
Negative Consequences	9.30±1.98	9.70±1.80	1.02	39	0.15
Social Functioning	20.27±1.48	20.52±1.46	0.80	39	0.21
WHO Quality of Life's					
Physical Health	18.17±1.98	18.07±2.09	0.20	39	0.41
Psychological	14.90±3.31	14.82±2.35	0.12	39	0.45
Social Relationship	6.52±1.82	6.47±1.35	0.13	39	0.44
Environment	17.02±3.87	16.75±3.26	0.36	39	0.35

This table 6 presents the results of a study comparing two groups—an experimental group and a control group, on measures of psychological aspects namely Somatosensory Amplification: (t-value of 21.47 and $p < 0.001$), Health Anxiety: (t-value of 22.93 and $p < 0.001$), Negative Consequences: (t-value of 10.78 and $p < 0.001$), Social Functioning: (t-value of 25.70 and $p < 0.001$) and all aspects of WHO Quality of Life including Physical Health: (t Test 6.01 and $p < 0.001$), Psychological Health: (t-value of 6.67 and $p < 0.001$), Social Relationships: (t-value of 9.49 and $p < 0.001$), and Environment: (t-value of 11.07 and $p < 0.001$).

To conclude, in all measures, the experimental group demonstrated significantly better outcomes than the control group. This suggests that the CBT intervention is significantly effective or beneficial in reducing anxiety-related symptoms and enhancing overall quality of life across physical, psychological, social, and environmental domains.

Discussion

The present study aimed to explore the efficacy of Cognitive behavioral therapy (CBT) on the severity of somatosensory amplifications, health anxiety, social functioning and Quality of life in patients with IAD. Finding divulged that across all measures, the experimental group showed significantly better outcomes in terms of less severity in somatosensory amplifications, health anxiety and better social functioning and Quality of life. This suggests that the CBT intervention had a strong positive impact on reducing somatosensory amplification, health anxiety, perceived negative consequences, and improving social functioning, as well as enhancing various aspects of quality of life.

Hypochondriasis, or Illness anxiety disorder, is a prevalent psychiatric disorder, characterized by persistent preoccupation about having more serious and progressive physical disorders. The preoccupation is accompanied by hypervigilance and a catastrophic interpretation of bodily signs, resulting in repetitive and excessive checking and reassurance-seeking behavior or maladaptive avoidance. The symptoms are clearly disproportionate and cause significant distress and impairment (Mataix-Cols, et al., 2024). In ICD regardless of its revision, hypochondriacal symptoms are described in the context of both the primary condition hypochondriacal disorder and as secondary symptoms within a range of other mental disorders. However, later on the proposed revision emphasizes the

phenomenological overlap with both anxiety disorders (e.g., fear, hypervigilance to bodily symptoms, and avoidance) and obsessive-compulsive and related disorders (e.g., preoccupation and repetitive behaviors) and the distinction from the somatoform disorders (presence of somatic symptom is not a critical characteristic). Regardless of disagreements on symptoms, in support of literature the present finding remains on the conclusive statement on IAD is chronic, and debilitating psychiatric condition (Kikas, et al, 2024).

However, when it is diagnosed it can be effectively treated in combination with CBT. Certainly, there is a huge need to advance the literature and knowledge on DSM-5, IAD criteria as it is lacking, and needed more research to better understand this condition in the population, therefore its related interventions. In line with the present finding regarding efficacy of CBT over some symptoms specifically somatosensory amplifications, health anxiety, social functioning and Quality of life, in another study by Luo, et al., (2024) addressed the same results by revealing patients with somatoform disorders (SFDs) received either combined CBT and TAU (CBT + TAU), or TAU alone were found to be significantly different on their outcome measures: SQSS (Self-screening Questionnaire for Somatic Symptoms); PHQ-15 (Patient-Health-Questionnaire-15) and the WI (Whiteley Index); GAD-7 (General Anxiety Disorder-7); HAMD-17 (Hamilton Depression Rating Scale-17); Family Burden Interview Schedule (FBIS); Sheehan Disability Scale (SDS); and the Short Form of Quality-of-Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-SF) at week 24 and the baseline. Perez Polanco, (2023) also served the significance of CBT by describing models of intervention including cognitive and behavioral strategies as well as psychodynamic psychotherapies and family therapy interventions. According to study these strategies to deal with anxiety and discovering the sources of those anxieties in these patients are useful adjuvants. Despite the strength of this study reflected in corroborating literature in the same vein. However the study is a single-center study, and also conducted at a tertiary care hospital, which likely attracted patients with more severe illnesses. limiting the generalizability of the results to the broader medical population. Future studies should include a larger sample size and multiple sites to validate these findings. Incorporating primary, secondary, and tertiary care settings would allow for broader generalization to the entire medical population.

Conclusion: Cognitive Behavioral Therapy has demonstrated its effectiveness in the treatment of hypochondriasis by targeting the cognitive distortions and anxiety associated with health concerns. By helping individuals recognize and challenge their unrealistic health-related beliefs, CBT enables patients to develop a more balanced and realistic perspective on their health. Through a combination of cognitive restructuring, exposure techniques, and behavioral experiments, patients can gradually confront their fears and develop healthier coping mechanisms. CBT equips individuals with practical tools and strategies to manage their anxiety, thereby empowering them to lead more fulfilling and less fear-driven lives. While the treatment may require ongoing practice and support, the evidence suggests that CBT can significantly alleviate the distress associated with hypochondriasis and improve overall quality of life for those affected.

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