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Cognitive Behavioral Therapy Versus Antidepressant Medication in Generalized Anxiety Disorder: A Prospective & Novel Approach

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ABSTRACT

Background: Generalized Anxiety Disorder (GAD) is a condition which causes impairment in affected individuals. The conventional treatment includes the application of Cognitive Behavioral Therapy (CBT) or antidepressants. The prospective study compares the CBT and pharmacological therapy in terms of their effects on the reduction of symptoms and functional improvements. **Methods:** This prospective study (January to July 2024) included 100 individuals with GAD diagnosis, aged 20-50 years according to DSM-5 criteria. Respondents were put in two groups where a structured CBT therapy was administered during 12 weeks in one group and the other group received a standard dose of Selective Serotonin Reuptake Inhibitors. The symptoms, quality of life, and patient self-evaluation were measured using the GAD-7 scale before and after the intervention for comparative analysis. Paired t-tests, independent t-tests, correlation analysis, and estimation of effects size were used for statistical analysis. **Results:** The GAD-7 scores were significantly reduced in CBT group, and participants showed better performance in terms of functional activities and quality of life measurements ($p = 0.02$), with high levels of patient satisfaction. The data indicated that there was a moderate positive correlation between symptom reduction and treatment adherence ($r = 0.45$, $p = 0.003$). **Conclusion:** The CBT therapy showed better treatment results as compared to antidepressants in terms of patient satisfaction and functional outcome of the GAD treatment. The results indicated that CBT therapy should be applied as a primary treatment with integration of research into personal treatment plans covering symptoms of anxiety.

Keywords: Generalized Anxiety Disorder, Cognitive Behavioral Therapy, Antidepressants, SSRIs, GAD-7, Mental Health Treatment, Selective Serotonin Reuptake Inhibitors, Functional Outcomes.

Generalized Anxiety Disorder (GAD) is one of the most common anxiety disorders due to the fact that its key characteristics are persistent and excessive worrying that persists for six months or later that interferes with the usual functioning activities [1]. GAD symptoms include restlessness, muscle tension, inability to concentrate, irritability, fatigue, and sleep disruption. The global GAD prevalence patterns reveal the growing trends since the condition adversely affects the quality of life and work performance, which eventually reflect on overall well-being [2]. GAD requires continuous management interventions, targeting severity of symptoms and low functional capacities since it persists and recurs frequently [3].

Selective serotonin reuptake inhibitor (SSRI)-based medications combined with cognitive behavioral therapy (CBT) provides a central therapeutic approach for GAD treatment. Medications for antidepressants help treat neurochemical irregularities, and successfully minimize the core anxiety symptoms [4]. Patients who receive medication suffer with associated side-effects, along with difficulties maintaining their treatment plan and restricted gains in their overall functioning [5]. CBT provides a step-by-step therapeutic workplan, where patients modify stress-giving thought processes and behaviors simultaneously. Evidence for the long-lasting effectiveness of CBT therapy are substantial, if patients complete the therapy process [6].

The existing literature on CBT and medication treatments do not provide the direct comparison of their outcomes in GAD treatment. The success criteria beyond symptom reduction include diminished attention to functional outcomes along with quality-of-life assessments and patient-reported satisfaction in available research [7]. This research prospectively evaluated the therapeutic outcomes of CBT versus antidepressant medication in adult patients with GAD. This study employed standardized assessment tools while focusing on patient-centered outcomes to

measure both decrease in anxiety symptom and their impact on both functional outcomes and quality of life. The study aimed to inform best clinical treatment practices for personalized care decisions and improve services for adults dealing with GAD.

Methodology

This prospective quasi-experimental study was conducted between January and July 2024. The study included 100 patients aged 20–50 years, diagnosed with GAD according to DSM-5 criteria recruited from PUMHS, IMCH Sindh, after an informed consent and institutional approval. The participants in the study were only those that have a GAD-7 score of 10 or more with moderate to severe anxiety symptoms and had not been previously exposed to any structured CBT or regular use of antidepressants in the last 6 months. The participants who had bipolar disorder or psychotic disorders and individuals experiencing drug abuse issues or undergoing regular therapy of other mental health conditions were excluded. Breast-feeding and pregnant ladies and individuals with unstable medical conditions were also excluded.

Eligible participants were allocated in two groups; one group was CBT treatment and the other group was SSRIs treatment. The patients under CBT intervention protocol were given 12 consecutive sessions following an organized protocol in treating anxiety under the supervision of licensed clinical psychologists. Prescription was done by doctors to the pharmacological group with the standard therapeutic dosage of SSRIs including fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), citalopram (Celexa), and escitalopram (Lexapro); with dosage changes according to the treatment effect and toleration to side effects. The information collected from patients included demographic data, medical and psychiatric histories, the rating of anxiety levels, functional barriers and quality of life. Outcome measures were assessed twice throughout the period of study; one was the pre-treatment baseline and the other one was at week 12 after treatment. The assessment instrumentation included the GAD-7 scale on severity of the symptoms, World Health Organization Quality of life: Brief Version (WHOQOL-BREF) questionnaire to evaluate the quality of life, patient self-report surveys to assess treatment satisfaction and adherence.

Data was analyzed using SPSS (version 26.0). Continuous variables were reported using the mean and standard deviation (SD) and categorical variables were represented in the form of frequencies and percentages. The independent sample t-tests were used to compare baseline characteristics between two groups in case of continuous variables, and the chi-square tests were used to compare the baseline characteristics in categorical variables. Paired sample t-tests were used to determine changes in each group between the baseline and after 12 weeks of treatment. Independent sample t-tests were used to compare the CBT and SSRI groups at the post-intervention stage. Pearson correlation analysis was used to determine the relationship between the change in GAD-7 scores and treatment adherence. A p-value of 0.05 or less was regarded that the difference in statistically significant.

Results

A total of 100 patients aged 20-50 years who were diagnosed with Generalized Anxiety Disorder (GAD) completed the 12-week period of intervention. The respondents were allocated into two groups; 50 individuals were in CBT group and 50 individuals were given SSRI. The mean age was 34.6 ± 7.2 years. Table 1 represents the baseline demographic and clinical characteristics of all subjects.

Table 1: Baseline Demographic and Clinical Characteristics

Variable	Mean ± SD	Range
Age (years)	34.6 ± 7.2	20–50
Gender (% Female)	62 (62%)	—
GAD-7 score (Pre)	14.2 ± 3.6	10–21
WHOQOL-BREF (Pre)	48.3 ± 6.5	35–62

GAD-7 = Generalized Anxiety Disorder-7 scale; WHOQOL-BREF = World Health Organization Quality of Life–BREF; SD = standard deviation.

The study population was female dominant (62%). There were no significant differences between the two groups at the baseline in terms of age, GAD-7 scores, or quality of life measures ($p > 0.05$), indicating that the two groups were similar before the intervention. Table 2 reflects the baseline and post treatment scores of anxiety symptoms (GAD-7), quality of life (WHOQOL-BREF) and patient satisfaction of each CBT group as well as SSRI.

Table 2: Pre- and Post-Treatment Scores by Intervention Group

Measure	CBT Group (n = 50)	SSRI Group (n = 50)	p-value
GAD-7 Pre	14.3 ± 3.4	14.1 ± 3.8	0.76
GAD-7 Post	6.2 ± 2.5	8.4 ± 2.9	< 0.01
WHOQOL-BREF Post	72.1 ± 7.9	65.3 ± 8.5	0.02
Patient Satisfaction (0–10)	8.6 ± 1.1	6.9 ± 1.4	< 0.01

CBT = Cognitive Behavioral Therapy; SSRI = Selective Serotonin Reuptake Inhibitor; GAD-7 = Generalized Anxiety Disorder-7 scale; WHOQOL-BREF = World Health Organization Quality of Life–BREF; n = number of participants; Pre = pre-intervention; Post = post-intervention; SD = standard deviation; p-value = value of significance.

The two groups experienced improvement in their anxiety symptoms within the period of 12 weeks. The within-group analysis indicated that both CBT and SSRI groups showed notable reduction in GAD-7 scores at the end of their treatment, indicating clinical improvement. The patients undergone CBT performed better in terms of reduction in anxiety symptoms, and improvement in quality-of-life after therapy as compared to subjects in SSRI group. Satisfaction with the treatment was rated significantly higher by the patients receiving CBT. Table 3 indicates a significant correlation between the therapy adherence and GAD-7 scores reduction in CBT-subjected patients.

Table 3: Correlation Between Therapy Adherence and GAD-7 Score Reduction

Variable	Correlation Coefficient (r)	p-value
CBT Adherence vs. GAD-7 Change	0.45	0.003

CBT = Cognitive Behavioral Therapy; GAD-7 = Generalized Anxiety Disorder-7 scale; p-value = value of significance.

A moderate positive relationship between CBT session attendance and score change on GAD-7 ($r = 0.45$, $p = 0.003$) was observed, suggesting that better outcomes were observed in patients with regular attendance (Table 3).

Discussion

This prospective quasi-experimental study reported that CBT offers more advantages than the SSRIs in GAD therapy. The subjects with the CBT group had higher scores with reduction in the GAD-7 score compared with the SSRI treatment group. Past research indicated that CBT has shown exemplary outcomes in anxiety disorders treatment [8,9]. The patients engaged in CBT may also be effective participants in recognizing their problematic cognitions since the structured and skills-based nature of the method results in improved symptom reduction in relation to medication as SSRI has only neurochemical actions [10]. Experimental studies have also demonstrated that alterations in behavior and underlying neurobiological pathways are closely linked with changes in cognitive and functional outcomes [11,12]. The participants in the CBT group recorded better quality of life scores during the post intervention assessment with the help of WHOQOL-BREF.

The results consolidated the reported literature emphasizing the role of CBT in minimizing GAD symptoms and improving psychosocial functioning and quality of life concurrently [13,14]. CBT intervention has a broad spectrum which covers emotional, cognitive and behavioral components contributing to its effectiveness. The efficacy of SSRIs in the treatment of GAD symptoms core do not resolve cognitive errors and behavioral avoidance issues that perpetuate the chronicity of the disorder [15-16]. Based on these findings, treatment evaluation requires an assessment of both types of effectiveness, symptom reduction and functional recovery. According to the recorded data, the CBT group has increased level of patient satisfaction (8.6) over the SSRI group (6.9) [17-21]. These results are consistent with the reported literature that indicated that psychotherapy resulted in increased levels of satisfaction since patients are involved in their process of care with reduced side effects [22-24]. The correlation between CBT adherence and improvement in the symptom was reported as moderate as the values of the treatment efficacy were directly correlated with regular sessions [25,26]. The therapist-patient alliance, motivation and structured support are crucial in ensuring the adherence to the treatment of the patient and good results during the therapy process [27].

The present research offered an encouraging outcome but also had numerous limitations. The 12 weeks of follow-up is insufficient to indicate what will happen after this time or cases of relapse within the patients. The research sample comprised of the participants from urban outpatient clinics, and the sample was too small to generalize its application. These findings should be replicated by targeting different population and the importance of interaction of CBT and medication treatment methods in tackling cases unresponsive to conventional methods is still needed to be investigated. A thorough mental healthcare assessment should be introduced which provide valuable information about patient preferences and experiences.

Conclusion

In conclusion, the results confirmed that CBT was a better intervention tool for GAD treatment, which outperforms other therapeutic interventions in terms of improving the quality of patient's life and their satisfaction levels. CBT provides patients with long term functional benefits through its organized treatment plan. The findings underline the need of mental healthcare systems focusing on personalized requests utilizing psychological methods of treatment for managing GAD.

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Conflict of Interest

None

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Use of Artificial Intelligence

The corresponding author declared that no artificial intelligence or AI-assisted tools were used in this manuscript.

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