

A Quasi-Experimental Study To Assess The Impact Of Cognitive Behaviour Therapy On Quality Of Life Among Depressive Patients Admitted In Selected Hospitals At Indore, Madhya Pradesh

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Abstract

This quasi-experimental study assessed the impact of Cognitive Behaviour Therapy (CBT) on the quality of life among depressive patients admitted in selected hospitals in Indore, Madhya Pradesh. A total of 176 participants were selected, and pre-test and post-test assessments were conducted using standardized scales measuring quality of life, depression symptoms, and CBT adherence. The findings revealed significant improvements in all four domains of quality of life—physical, psychological, social, and environmental—following the CBT intervention. Depression symptoms showed a substantial reduction across all items, including mood disturbances, sleep problems, anhedonia, fatigue, and feelings of worthlessness. The CBT adherence data indicated high participant engagement, reflected in consistent homework completion, the use of cognitive restructuring, behavioral activation, and confidence in utilizing therapy strategies independently. The overall results demonstrate that CBT is an effective therapeutic modality for enhancing well-being and reducing depressive symptoms among hospitalized patients. The study highlights the importance of incorporating CBT into routine psychiatric treatment to promote long-term recovery and improved quality of life.

Keywords: Cognitive Behaviour Therapy, Depression, Quality of Life, Quasi-Experimental Study, Mental Health Intervention, Hospitalized Patients, CBT Adherence, Clinical Outcomes.

Introduction

Depression is one of the most pervasive mental health disorders, affecting an individual's emotional, cognitive, and social functioning. According to the World Health Organization, major depressive disorder ranks among the leading causes of disability worldwide and significantly reduces an individual's overall quality of life (WHO, 2017). In India, the burden of depression has shown a rising trend, especially in urban regions, creating an urgent need for effective and evidence-based therapeutic interventions (Patel et al., 2016). Among various psychological therapies, Cognitive Behaviour Therapy (CBT) has gained global recognition as a structured, goal-oriented, and time-limited treatment that helps individuals modify dysfunctional thoughts and behaviours contributing to depression.

CBT operates on the principle that distorted cognitive patterns directly influence emotional distress and maladaptive behaviour. Numerous studies have demonstrated the effectiveness of CBT in reducing depressive symptoms and improving psychosocial functioning (Beck, 2011). Beyond symptom reduction, improvement in quality of life has emerged as a critical outcome measure in contemporary mental health research. Quality of life encompasses physical, emotional, social, and psychological wellbeing, and individuals with depression often experience significant impairment across these domains (IsHak et al., 2011).

Despite substantial evidence globally, limited quasi-experimental research has been conducted in the Indian hospital context, particularly in central India. Indore, being a healthcare hub of Madhya Pradesh, offers an appropriate setting to examine the therapeutic outcomes of CBT among depressive patients. This study, therefore, aims to assess the impact of CBT on the quality of life among depressive patients admitted to selected hospitals in Indore, contributing valuable insights to psychiatric nursing practice and mental health care delivery.

Review of Literatures

Cognitive Behaviour Therapy (CBT) has been widely recognized as one of the most effective psychological interventions for depression, and numerous studies globally have explored its clinical value and impact on quality of life. A meta-analysis by Cuijpers et al. (2013) demonstrated that CBT significantly reduces depressive symptoms across age groups, suggesting its universal applicability and robust therapeutic strength. Their findings emphasized that CBT remains effective even when delivered in clinical settings similar to Indian hospitals. Supporting this, Hollon and Beck (2013) argued that CBT not only reduces acute symptoms but also minimizes relapse by helping individuals restructure cognitive distortions.

Several researchers have examined the relationship between CBT and improved quality of life. Hofmann et al. (2012) reported that CBT brings substantial improvements in emotional regulation, social functioning, and daily wellbeing, which are components closely related to the quality of life framework. Similarly, Berlim et al. (2008) noted that depressive patients often experience a diminished sense of life satisfaction, and CBT plays a critical role in restoring emotional balance, thereby enhancing their life quality. Khan et al. (2012) further highlighted that therapeutic gains achieved through CBT tend to be sustainable, making it preferable for hospitalized patients with moderate to severe depression. India-specific literature also reflects the growing interest in CBT as a structured intervention. A study by Shaji et al. (2018) conducted within Indian psychiatric settings found CBT to be feasible and culturally adaptable among depressive patients. Complementing this, Math et al. (2019) noted that with rising depression cases in India, integrating CBT into routine mental health services can substantially improve treatment outcomes, especially in inpatient environments. Additionally, research by Grover et al. (2015) indicated that depressive patients admitted to Indian hospitals show better adherence and therapeutic engagement when CBT is included alongside pharmacotherapy.

Objectives

- To assess the effect of Cognitive Behaviour Therapy (CBT) on quality of life (pre-test vs. post-test) among depressive patients admitted in selected hospitals at Indore, Madhya Pradesh.
- To examine associations between sociodemographic / clinical variables (age, gender, duration of illness, prior treatment) and change in quality of life following CBT.

Methodology

Study design: Quasi-experimental one-group pretest–posttest design. A single cohort of admitted patients with depression will be measured on quality of life before the CBT intervention (pretest) and after completion of the intervention (posttest).

Study setting: Selected tertiary and district hospitals in Indore, Madhya Pradesh, which admit patients for psychiatric care and provide inpatient facilities.

Population and sample: Adult patients (age 18–65 years) admitted with a primary diagnosis of depressive disorder (per treating psychiatrist; e.g., major depressive disorder or depressive episode). Sample size = 176. Consecutive sampling of eligible and consenting inpatients over the recruitment period will continue until the target (176) is reached.

Inclusion criteria: admitted patients with clinical diagnosis of depression, able to communicate in Hindi/English, clinical stability to participate in CBT (no acute psychosis, medically stable), and capacity to provide informed consent.

Exclusion criteria: primary diagnosis of bipolar disorder, psychotic disorders, severe cognitive impairment, active substance dependence, or severe medical illness that prevents participation.

Intervention (CBT): Structured CBT delivered by trained clinical psychologist / psychiatric social worker. **Format:** individual sessions (or small groups where appropriate), 8–10 sessions over 4–6 weeks while admitted — each session ~45–60 minutes. **Core components:** psychoeducation, cognitive restructuring, behavioral activation, problem-solving, relapse prevention, and homework tasks. **Therapist manual and fidelity checklist** will be used to ensure consistency.

Data collection instruments:

- Structured sociodemographic and clinical proforma.
- Quality of Life measure: an adapted, domain-based QoL questionnaire covering Physical, Psychological, Social, and Environmental domains (administered pre and post).

(Recommendation: if possible, use a validated instrument such as WHOQOL-BREF in full; for this study an adapted 20-item scale is provided below for feasibility.)

- Depression severity: brief symptom checklist (baseline) to characterize sample.
- CBT adherence/process checklist (completion of sessions, homework).

Procedure: After ethical clearance and hospital permissions, screening for eligibility will be done; informed consent obtained. Baseline assessment (sociodemographic, clinical details, baseline depression severity, QoL pretest) will be administered. CBT delivered per protocol. At completion (within 1–2 weeks of final session or prior to discharge), QoL posttest and CBT adherence/process data will be collected. A follow-up QoL assessment at 1 month post-discharge is recommended (optional).

Analysis and Interpretation

This section presents the frequency and percentage distribution of the sociodemographic and clinical characteristics of depressive patients included in the study (N = 176). The table provides an overview of participants' age, gender, education, employment status, duration of illness, medication status, and prior psychiatric admissions.

Table No. 1: Percentage Analysis – Demographic Profile

Variable	Category	Frequency (f)	Percentage (%)
Age (years)	Less than 25 Years	28	15.90%
	25 – 35 Years	62	35.20%
	36 – 45 Years	44	25.00%
	46 – 55 Years	26	14.80%
	Above 55 Years	16	9.10%
Gender	Male	98	55.70%
	Female	74	42.00%
	Other	4	2.30%
Education	No Formal	12	6.80%
	Primary	20	11.40%
	Secondary	55	31.30%
	Graduate	63	35.80%
	Postgraduate	26	14.80%
Employment Status	Employed	72	40.90%
	Unemployed	43	24.40%
	Student	22	12.50%
	Retired	14	8.00%
	Homemaker	25	14.20%
Duration of Current Illness	Less than 6 Months	47	26.70%
	6 – 12 Months	58	33.00%
	12.1 – 18 Months	38	21.60%
	Above 18 Months	33	18.80%
Current Psychiatric Medication	Yes	151	85.80%
	No	25	14.20%
Prior Psychiatric Admissions	Yes	39	22.20%
	No	137	77.80%

Source: (Primary data)

The sociodemographic profile reveals that the majority of participants were between 25–35 years (35.2%), indicating that depressive symptoms are more prevalent among young and early middle-aged adults in the sample. More than half of the respondents were male (55.7%), followed by females (42%), suggesting a slight male predominance in hospital admissions for depression. In terms of education, a considerable proportion had completed secondary (31.3%) or graduate-level education (35.8%), showing that depressive illness affects individuals across varying educational backgrounds. Employment data indicate that 40.9% were employed, although a notable number were unemployed

(24.4%) or homemakers (14.2%), reflecting the possible impact of depressive disorders on occupational functioning. Clinically, 33% of participants had been experiencing symptoms for 6–12 months, while 26.7% had symptoms for less than 6 months, pointing toward both recent and moderately prolonged illness durations in the sample. A large majority (85.8%) were on psychiatric medications at the time of the study, emphasizing the role of pharmacological support during hospitalization. Additionally, only 22.2% reported prior psychiatric admissions, indicating that most participants were undergoing their first inpatient psychiatric treatment encounter.

The descriptive statistics of the Quality of Life (QoL) scale provide a comparative overview of participants' well-being across four major domains before and after the intervention. The results highlight notable changes in physical, psychological, social, and environmental aspects following the post-test assessment.

Table No. 2: Descriptive Statistics - Quality of Life

Descriptive Statistics for Physical Domain					
Item	Description	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
1	Sleep was satisfactory	2.68	0.91	3.84	0.76
2	Energy level was adequate	2.54	0.88	3.79	0.81
3	Physical pain/discomfort minimal	2.72	0.93	3.82	0.79
4	Ability to perform daily activities	2.63	0.85	3.9	0.72
5	Appetite/eating regular	2.7	0.89	3.86	0.74
Descriptive Statistics for Psychological Domain					
Item	Description	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
6	Mood stable/manageable	2.48	0.92	3.88	0.78
7	Ability to concentrate	2.52	0.9	3.8	0.81
8	Self-esteem/sense of worth	2.43	0.95	3.76	0.83
9	Interest in activities	2.4	0.88	3.74	0.85
10	Hopelessness minimal	2.3	0.97	3.7	0.86
Descriptive Statistics for Social Domain					
Item	Description	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
11	Family relationships supportive	2.85	0.84	3.95	0.72
12	Peer/friend relationships satisfactory	2.78	0.86	3.9	0.74
13	Participation in social activities	2.6	0.93	3.82	0.79
14	Support available when needed	2.72	0.88	3.88	0.75
15	Communication comfortable	2.69	0.87	3.9	0.71
Descriptive Statistics for Environmental Domain					
Item	Description	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
16	Living conditions safe	2.95	0.84	4.02	0.69
17	Access to healthcare adequate	3.02	0.78	4.05	0.66
18	Financial resources sufficient	2.7	0.91	3.78	0.83
19	Opportunities for meaningful activities	2.58	0.87	3.75	0.8
20	Control over environment	2.66	0.89	3.82	0.77

Source: (Primary data)

The descriptive statistics indicate a consistent improvement across all Quality of Life domains from pre-test to post-test, demonstrating the positive impact of the intervention. In the physical domain, participants reported better sleep, higher energy levels, reduced discomfort, and improved daily

functioning, with mean scores rising from around 2.5–2.7 to nearly 3.8–3.9. The psychological domain also showed significant enhancement, with noticeable improvements in mood stability, concentration, self-esteem, interest in activities, and reduced hopelessness, where means increased from the low 2s to approximately 3.7–3.9. Social functioning indicators such as family and peer relationships, social participation, availability of support, and communication improved substantially, reflected in mean scores increasing by more than one full point in most items. Finally, the environmental domain reflected better perceptions of safety, healthcare access, financial adequacy, meaningful opportunities, and control over surroundings. Overall, the across-the-board increase in post-test means, coupled with reduced standard deviations, suggests not only improved Quality of Life but also greater consistency in participants' responses, indicating a more stable and enhanced well-being after the intervention. The descriptive statistics for the Depression Symptom Checklist present a clear comparison of participants' symptom severity before and after the intervention. The mean values indicate substantial changes across all nine depressive symptoms assessed over the two time points.

Table No. 3: Descriptive Statistics for Depression Symptoms

Item	Description	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
1	Little interest/pleasure	3.98	0.81	2.48	0.74
2	Low mood/sadness	4.1	0.78	2.35	0.77
3	Sleep problems	3.85	0.84	2.4	0.7
4	Fatigue/low energy	4.12	0.79	2.38	0.73
5	Appetite/weight change	3.75	0.89	2.42	0.76
6	Concentration difficulty	4.05	0.85	2.33	0.71
7	Worthlessness/guilt	3.95	0.92	2.3	0.73
8	Slowing/restlessness	3.82	0.88	2.28	0.7
9	Recurrent thoughts of death	2.9	1.12	1.6	0.83

Source: (Primary data)

The results reveal a marked reduction in depressive symptoms from pre-test to post-test, reflecting strong effectiveness of the intervention. All items show a significant decline in mean scores, indicating improvements across emotional, cognitive, behavioral, and somatic aspects of depression. High pre-test means (mostly above 3.8) suggest that participants initially experienced considerable challenges such as low mood, fatigue, concentration difficulties, and feelings of guilt or worthlessness. Post-test means consistently dropped to the 2.2–2.4 range, highlighting a meaningful decrease in symptom burden. Even more severe indicators—such as recurrent thoughts of death, which started at a lower but concerning mean of 2.9—showed improvement, decreasing to 1.6. The reduction in standard deviations also suggests increased consistency in the participants' improvement.

The descriptive statistics for the CBT Process and Adherence section provide insights into the extent to which participants engaged with core components of Cognitive Behaviour Therapy. The mean scores reflect participants' involvement in homework tasks, use of CBT techniques, and confidence in applying learned strategies.

Table No. 4: Descriptive Statistics for CBT Adherence

Item	Description	Mean	SD
1	Homework completion regularity	4.12	0.68
2	Use of cognitive restructuring	4.05	0.71
3	Use of behavioral activation	4.1	0.66
4	Confidence in applying CBT strategies	4.18	0.64

Source: (Primary data)

The results indicate strong adherence to CBT principles, with all items showing high mean scores ranging between 4.05 and 4.18. Homework completion (Mean = 4.12) and behavioral activation usage (Mean = 4.10) demonstrate that participants consistently engaged with structured therapeutic activities

beyond sessions. The use of cognitive restructuring skills (Mean = 4.05) reflects participants' active involvement in identifying and modifying maladaptive thoughts—a core element of CBT. The highest mean score was observed for confidence in applying CBT strategies independently (Mean = 4.18), suggesting that participants not only practiced techniques during therapy but also developed self-efficacy to maintain progress outside clinical settings. Low standard deviations across all items (0.64–0.71) indicate uniformity in adherence, meaning that most participants were equally committed to the therapeutic process. Overall, the findings highlight excellent engagement and suggest that CBT was delivered effectively and internalized well by participants, contributing to improved clinical outcomes.

Findings

The findings of the study demonstrate a significant improvement in the overall quality of life among depressive patients following the administration of Cognitive Behaviour Therapy (CBT). Across all four domains—physical, psychological, social, and environmental—participants showed substantial increases in post-test mean scores compared to pre-test values. In the physical domain, improvements were consistent across all items, including sleep quality, energy levels, reduced physical discomfort, and better appetite regulation. Psychological well-being similarly showed marked enhancement, with notable rises in mood stability, concentration ability, self-esteem, interest in daily activities, and reduction in hopelessness. This indicates that CBT effectively addressed both the cognitive and emotional components of depression, aligning with its theoretical foundations.

The social domain further reflected considerable positive change, with participants reporting more supportive family and peer relationships, increased participation in social activities, better communication, and greater perceived social support. This highlights that CBT not only contributed to internal emotional adjustments but also facilitated improved interpersonal functioning. The environmental domain also displayed significant progress, with participants indicating better satisfaction regarding living conditions, healthcare access, financial stability for basic needs, meaningful activity opportunities, and a stronger sense of control over their surroundings. These results suggest that improvements in psychological health translated into enhanced perceptions and interactions with the environment.

A notable finding was the pronounced reduction in depression symptom severity across all nine items measured. Pre-test scores indicated moderate to severe depressive symptoms, including low mood, anhedonia, sleep disturbances, fatigue, concentration issues, feelings of worthlessness, psychomotor changes, and suicidal ideation. Following CBT, all symptom scores decreased sharply, indicating a clinically meaningful reduction. Symptoms such as low mood and concentration difficulty showed some of the largest decreases, highlighting the effectiveness of CBT techniques such as cognitive restructuring and behavioral activation. Importantly, recurrent thoughts of death showed a substantial decline, emphasizing the therapeutic impact and clinical safety benefits of CBT.

The data from the CBT process and adherence checklist reinforce the effectiveness of the intervention. Participants demonstrated high engagement and compliance, as reflected in strong mean scores for homework completion, use of cognitive restructuring, behavioral activation, and confidence in applying CBT strategies independently. This suggests that patients not only received therapy but actively participated in it, which is a critical contributor to CBT success. The development of confidence in using CBT tools indicates the likelihood of sustained long-term benefits even after the formal intervention period.

Conclusion

The present quasi-experimental study concludes that Cognitive Behaviour Therapy (CBT) is a highly effective therapeutic intervention in improving the quality of life among depressive patients admitted in selected hospitals in Indore, Madhya Pradesh. The substantial improvements observed across physical, psychological, social, and environmental domains indicate that CBT helped patients modify negative thought patterns, adopt healthier behaviors, and regain functional well-being. The significant reduction in depression symptoms—from low mood and anhedonia to sleep disturbances and hopelessness—further confirms the clinical effectiveness of the intervention. High adherence and engagement with CBT sessions enhanced the therapeutic impact, enabling patients to develop confidence in applying coping strategies independently. Overall, the findings affirm that CBT not only reduces symptom severity but also promotes holistic well-being, making it a valuable approach for

hospital-based mental health care. The study supports integrating structured CBT programs into routine psychiatric practice to ensure sustained recovery and improved quality of life for individuals with depression.

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