A COMPARATIVE STUDY ON THE EFFICACY OF POSITIVE PSYCHOLOGY INTERVENTION AND COGNITIVE BEHAVIORAL THERAPY FOR CLINICAL DEPRESSION

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ABSTRACT

Background: Depression affects millions globally, with a high prevalence in Pakistan. Effective interventions are critical, yet comparative evidence for Positive Psychology Intervention (PPI) and Cognitive Behavioural Therapy (CBT) in reducing depressive symptoms and enhancing psychological well-being among clinically depressed adults is limited.

Objective: To compare the efficacy of PPI and CBT in reducing depressive symptoms and enhancing psychological well-being among clinically depressed patients.

Methods: In a two-group pre-post experimental design, 120 adults with clinical depression were randomly assigned to 12-week PPI (n=60) or CBT (n=60) interventions at Sharif Medical City Hospital Lahore from January to June 2024. Depression was assessed using the Beck Depression Inventory-II (BDI-II) [2], and psychological well-being with Ryff's Psychological Well-Being Scale (PWB) [3] pre- and post-intervention. Paired and independent t-tests analyzed outcomes.

Results: Both interventions significantly reduced BDI-II scores ($p<0.001$), with CBT showing a greater reduction (mean difference=9.3) than PPI (6.9, $p<0.01$). Both increased PWB scores ($p<0.001$), with PPI yielding a larger increase (81.6) than CBT (69.4, $p<0.01$).

Conclusion: CBT is more effective in alleviating depressive symptoms, while PPI excels in well-being enhancement, suggesting tailored or integrated approaches for depression treatment in resource-limited settings like Pakistan.

Keywords: Depression, Psychological Well-Being, Positive Psychology Intervention, Cognitive Behavioral Therapy

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INTRODUCTION

Depression continues to pose a significant global health challenge, affecting approximately 5% of the world's population and profoundly impacting daily life and well-being.[1] In Pakistan, the prevalence of depression is particularly concerning, with studies reporting rates as high as 33.62% in community-based studies.[2] Despite this substantial burden, over 75% of individuals in low- and middle-income countries such as Pakistan receive no treatment for their condition. This disorder arises from a multifaceted interplay of social, psychological, and biological factors. Psychological therapies represent

the primary line of treatment for depression.[1]The ongoing prevalence of depressive disorders in Pakistan highlights the critical need for effective, contextually adapted interventions.

Cognitive Behavioral Therapy (CBT) stands as a cornerstone treatment for depression, backed by extensive evidence of its effectiveness. A 2023 meta-analysis underscored CBT's substantial impact in alleviating depressive symptoms via cognitive restructuring and behavioral activation.[3] Similarly, a 2020 meta-analysis reinforced its efficacy in managing depression.[4] In the Pakistani context, adapted forms of CBT have demonstrated notable symptom relief across diverse populations.[5]

Complementing CBT, Positive Psychology Interventions (PPIs) have gained prominence as an innovative approach, shifting focus toward individuals' strengths, positive emotions, and overall flourishing to foster mental health. Research indicates their efficacy in boosting well-being.[6] A 2022 meta-analysis confirmed PPIs' effectiveness in reducing depressive symptoms and promoting well-being.[7] A 2020 review highlighted their contribution to building resilience, while a 2022 systematic review demonstrated consistent benefits in diminishing psychological distress and enhancing well-being across both clinical and non-clinical groups.[8,9] However, challenges remain: many PPI studies involve non-clinical or student samples, often with limited sample sizes and insufficient long-term follow-up.[10]

Although both approaches show promise, direct head-to-head comparisons of PPIs and CBT in clinical environments are scarce. A 2020 systematic review indicated potential equivalence in efficacy but emphasized the necessity for studies tailored to specific cultural contexts.[11] While PPIs hold theoretical appeal, robust empirical data contrasting their outcomes with those of established therapies like CBT—especially in clinical settings within Pakistan—remain limited.

The present study bridges this gap by evaluating the comparative efficacy of PPIs and CBT in mitigating depressive symptoms and enhancing well-being among patients with clinical depression in Pakistan. Our aim is to determine if PPIs can offer advantages over traditional CBT in addressing depression and broader holistic outcomes, thereby providing an evidence-based alternative. This research not only advances theoretical understanding but also holds practical implications for psychiatric care in Pakistan. In regions where mental health stigma is prevalent, a strengths-focused intervention may prove more culturally resonant and empowering, aligning with patients' personal goals rather than emphasizing pathology.

METHODS

This study employed a two-group pre-post experimental design and was conducted at Sharif Medical City Hospital (SMCH) in Lahore, Pakistan, from January 1 to June 30, 2024, following approval from the Ethical Committee (No. SMDC/SMRC/237-22). A sample size of 120 participants (60 per group) was determined and recruited via purposive sampling.

Inclusion criteria encompassed adults aged 18 to 65 years with a primary diagnosis of major depressive disorder according to DSM-5 criteria, who were seeking treatment for the first time. Exclusion criteria comprised individuals with a history of diagnosed medical or psychiatric conditions, or those who had previously participated in other psychological interventions.

Depression severity was evaluated using the Beck Depression Inventory-II (BDI-II), a 21-item self-report instrument with scores ranging from 0 to 63; higher scores reflect greater symptom severity. The BDI-II exhibits strong reliability (Cronbach's alpha = 0.91) and validity in clinical populations.[12]. Psychological well-being was assessed with the 54-item Psychological Well-Being (PWB) Scale, which measures six domains: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Total scores range from 54 to 324, with higher values indicating enhanced well-being. The PWB Scale demonstrates robust psychometric properties (Cronbach's alpha = 0.87–0.93).[13]

Eligible participants were informed about the study's purpose and the pre- and post-intervention assessments. Upon obtaining written informed consent, they were randomly allocated to either the Positive Psychology Intervention (PPI) or Cognitive Behavioral Therapy (CBT) group. Both interventions spanned 12 weeks, consisting of weekly sessions held in private consultation rooms at SMCH. Pre- and post-intervention evaluations using the BDI-II and PWB Scale were performed by trained research assistants who were blinded to group assignments.

The PPI group participated in a structured 12-week program designed to foster positive emotions, engagement, relationships, meaning, and accomplishment. Each 60-minute weekly session, facilitated by trained psychologists, incorporated exercises such as gratitude journaling, strengths identification, and savoring positive experiences. The CBT group followed a 12-week protocol based on Beck's model, emphasizing cognitive restructuring and behavioral activation. Weekly 60-minute sessions, conducted by certified therapists, targeted negative thought patterns and maladaptive behaviors through methods including thought records and activity scheduling. Both interventions were delivered individually to ensure personalized attention, with therapists adhering to standardized training in their respective approaches. Throughout the study, participant confidentiality and the right to voluntary withdrawal were upheld.

STATISTICAL ANALYSIS: Data analysis was performed using SPSS version 23. Descriptive statistics were employed to characterize the sample demographics, including age, gender, education, and marital status. Paired-samples t-tests assessed within-group changes in BDI-II and PWB scores from pre- to post-intervention. Independent-samples t-tests examined between-group differences in change scores (calculated as BDI-II pre-minus-post for symptom reduction and PWB post-minus-pre for well-being improvement). Statistical significance was set at $p < 0.05$.

RESULTS

The study analyzed data from 120 participants, with 60 assigned to the PPI group and 60 to the CBT group. The results are presented in two tables, detailing within-group changes, and between-group comparisons.

The PPI group had a mean age of 29.9 years (range: 18–55), with 50% female and 55% single participants. The CBT group had a mean age of 27.8 years (range: 18–42), with 60% female and 55% single participants. Education levels were predominantly tertiary (65% across groups), with 20% in the PPI group and 17% in the CBT group having secondary education. Marital status was balanced, with 55% single and 45% married in both groups.

As shown in Table 1, both interventions significantly reduced depression scores. For the PPI group, the mean pre-intervention BDI-II score was 18.9, decreasing to 12.0 post-intervention (mean difference = 6.9, $p < 0.001$). For the CBT group, the mean pre-intervention BDI-II score was 17.9, decreasing to 8.6 post-intervention (mean difference = 9.3, $p < 0.001$). An independent samples t-test (Table 2) revealed that CBT resulted in a significantly greater reduction in BDI-II scores compared to PPI (difference between groups = 2.4, $p < 0.01$).

Table 1: Pre- and Post-Intervention Scores for Depression and Psychological Well-Being by Group

Group	Pre-Intervention (Mean)	Post-Intervention (Mean)	Mean Difference	p-value*
BDI-II				
PPI	18.9	12.0	6.9	<0.001
CBT	17.9	8.6	9.3	<0.001
PWB				
PPI	122.0	203.6	81.6	<0.001
CBT	149.0	218.4	69.4	<0.001

Notes: BDI-II (range: 0–63; higher = greater depression); PWB (range: 54–324; higher = greater well-being). *p-values: Paired t-tests, $p < 0.05$

Table 1 also presents PWB outcomes. The PPI group's mean pre-intervention PWB score was 122.0, increasing to 203.6 post-intervention (mean difference = 81.6, $p < 0.001$). The CBT group's mean pre-intervention PWB score was 149.0, increasing to 218.4 post-intervention (mean difference = 69.4, $p < 0.001$). An independent samples t-test (Table 2) showed that PPI led to a significantly greater increase in PWB scores compared to CBT (difference between groups = 12.2, $p < 0.01$).

Table 2: Between-Group Comparisons of Changes in Depression and Psychological Well-Being

Measure	PPI Mean Difference	CBT Mean Difference	Difference Between Groups	p-value**
BDI-II Reduction	6.9	9.3	2.4	<0.01
PWB Increase	81.6	69.4	12.2	<0.01

Notes: Difference between groups: BDI-II (CBT – PPI), PWB (PPI – CBT). **p-values: Independent t-tests, $p < 0.05$

DISCUSSION

The present study evaluated the comparative efficacy of Positive Psychology Intervention (PPI) and Cognitive Behavioral Therapy (CBT) in alleviating depressive symptoms and enhancing psychological well-being among 120 patients with clinical depression in a randomized trial at a hospital in Lahore, Pakistan. Both interventions yielded significant reductions in depressive symptoms and improvements in psychological well-being, underscoring their unique contributions to managing clinical depression. Notably, CBT exhibited greater efficacy in lowering Beck Depression Inventory-II (BDI-II) scores (mean difference = 9.3 vs. 6.9, $p < 0.01$), whereas PPIs were more effective in elevating Psychological Well-Being (PWB) Scale scores (mean difference = 81.6 vs. 69.4, $p < 0.01$).

These results indicate that, although both therapies are efficacious, their relative strengths vary by outcome measure. CBT, through its emphasis on identifying and altering negative thought patterns and behaviors, proves particularly potent in alleviating depressive symptoms.[3] In contrast, PPIs, which prioritize the cultivation of positive emotions, engagement, relationships, meaning, and accomplishment, appear to foster psychological well-being more robustly.[6] Our observations align with prior comparative research, which highlights CBT excels in symptom reduction and PPI advantages in promoting overall well-being.

The superior impact of CBT on depressive symptoms is consistent with a 2023 meta-analysis that reported large effect sizes across varied populations.[3] A Furthermore, recent evidence on CBT's long-term advantages, including reduced recurrence rates over a six-year period, reinforces its enduring clinical utility.[14] The structured methodology

of CBT—focusing on negative cognitions—likely accounts for its substantial influence on depression severity.[15] In the Pakistani context, a 2020 trial illustrated CBT's effectiveness in community-based settings, demonstrating its adaptability to local needs.[5]

PPIs' enhanced effects on well-being are supported by a 2022 meta-analysis that documented significant gains among individuals with depression.[7]A 2020 review emphasized PPIs' capacity to cultivate positive emotions and resilience, which are integral to improvements in PWB domains such as meaning and engagement.[8] The foundational principles of positive psychology in PPIs likely underpin their pronounced gains in PWB, thereby addressing broader aspects of mental health.[6] A 2022 meta-analysis further verified that PPIs yield statistically significant reductions in depressive symptoms alongside enhancements in happiness and life satisfaction for those with depression.[16] However, a 2022 systematic review found that PPIs showed non-significant advantages over other active interventions, suggesting a basis for measured optimism.[17]

Direct comparisons between PPIs and CBT in adults with clinical depression remain limited. A 2019 randomized within-subjects trial examined a positive-enhanced CBT ("P-CBT") against standard problem-focused CBT, revealing higher rates of reliable and clinically meaningful improvements in depressive symptoms, happiness, optimism, and mental health following the P-CBT phase. This work offers preliminary endorsement for incorporating strengths-based elements into CBT frameworks.[18]A 2020 systematic review noted comparable efficacy between PPIs and CBT.[19]Yet our direct comparison highlights subtle distinctions, thereby enriching the existing evidence.

In Pakistan, with high depression prevalence and social stressors intensifying mental health burdens, [2] the integration of both modalities could form a comprehensive strategy, especially in resource-limited environments.[20] For instance, CBT might be prioritized for immediate symptom relief, as corroborated by contemporary trials, [4] while PPIs could support recovery and maintenance phases to elevate quality of life. Global health reports recently highlight the risks of depression recurrence, advocating for multifaceted treatments, [21] that our findings endorse through context-specific evidence.

These results hold substantial implications for clinical practice. Practitioners may tailor interventions based on treatment objectives: favoring CBT for patients focused on symptom alleviation and PPIs for those aiming to improve overall life quality and well-being. Additionally, blending components from both approaches could yield a holistic framework that simultaneously targets symptom reduction and well-being enhancement.

CONCLUSION

This research demonstrates the effectiveness of both CBT and PPIs in depression treatment, with CBT excelling in core symptom relief and PPIs proving superior for psychological well-being enhancement. By providing Pakistan-specific evidence, our work advances prior knowledge and emphasizes the value of customizing therapies to individual needs and goals, particularly in high-prevalence, resource-constrained settings.

LIMITATIONS

Nevertheless, several limitations warrant acknowledgment. The lack of a control group constrains causal attributions, and the absence of long-term follow-up limits insights into effect sustainability. Furthermore, the single-hospital findings may not generalize to Pakistan's diverse population. Future investigations should incorporate control conditions, longitudinal evaluations to assess enduring outcomes, and multi-hospital trials. Examining hybrid PPI-CBT models and cultural adaptations could further refine treatment efficacy and broaden applicability in Pakistan.

ETHICAL APPROVAL

Ethical approval of article was granted by the Ethics Committee of Sharif Medical & Dental College Lahore (Approval Number: SMDC/SMRC/237-22, Dated: July 01, 2022.

AUTHOR'S CONTRIBUTIONS

AMK: Conceived idea, design, manuscript writing
MAM: Review of Literature
KI, SS: Data collection, data analysis
AIB: Manuscript writing, data analysis & interpretation
MAA: Critical review, Manuscript writing
All Authors: Approval of the final version of the manuscript to be published

CONFLICT OF INTEREST

Authors declare no conflict of interest.

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