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Cognitive Stimulation Therapy as a Non-Pharmacological Intervention for Geriatric Depression: Evidence from a Pakistani Cohort

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Abstract

Geriatric depression is a growing mental health concern in Pakistan, driven by socioeconomic disparities, limited geriatric services, chronic illness, and social isolation. Cognitive Stimulation Therapy (CST), an evidence-based psychosocial intervention, offers a promising non-pharmacological approach for managing depressive symptoms in older adults. This study evaluated the effectiveness of CST among a Pakistani geriatric population using a two-phase design: a pilot study (N=20) followed by a main study (N=30). Participants were community-dwelling elderly individuals, old-home residents, and retirees exhibiting mild to moderate depressive symptoms measured using the Urdu-translated Geriatric Depression Scale–Short Form (GDS-SF). Results indicated a statistically significant reduction in depressive symptoms across both phases, demonstrating CST's applicability and cultural relevance in this context. The study underscores CST's potential as a cost-effective, scalable intervention suitable for diverse elderly populations in Pakistan. These findings highlight the need for integrating CST into community-based mental health programs for older adults.

Keywords: Geriatrics, Depression, CST, Intervention

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INTRODUCTION

Depression in geriatrics is a major public health challenge, particularly in low and middle income countries such as Pakistan, where the elderly population is steadily increasing. According to Blazer (2003), depression is a prevalent mental health problem that affects older individuals' quality of life and exacerbates physical health disorders. Despite their effectiveness, traditional pharmaceutical therapies can have adverse effects that might intensify pre-existing medical issues (Taylor et al., 2014). A promising non-pharmacological treatment for depression and cognitive impairment is cognitive stimulation therapy (CST) (Spector et al., 2003). CST seeks to improve cognitive functioning and emotional well-being by involving participants in social and memory-based activities (Spector et al., 2010). Cognitive Stimulation Therapy (CST) is a structured, evidence-based intervention originally developed for individuals with dementia but increasingly recognized for its benefits in reducing depressive symptoms. CST involves cognitively engaging activities delivered in a supportive group-based format, enhancing social interaction, cognitive functioning, and emotional well-being. While CST is widely studied in Western contexts, its application in Pakistan remains limited, especially considering cultural norms, family structures, and community settings.

This study aims to fill that gap by evaluating CST as a culturally adapted, non-pharmacological intervention for geriatric depression among three distinct elderly groups: community-dwelling individuals, old-home residents, and retirees.

Phases of Study

Phase I: Pilot Study (N = 20)

The first phase of the study was pilot phase and it was carried out to test the preliminary effectiveness of CST and examined the psychometric properties of the Urdu-translated Geriatric Depression Scale–Short Form (GDS-SF). It also assessed acceptability, cultural relevance, and feasibility of the adapted CST activities.

Phase II: Main Study (N = 30)

The main study tested the formal hypotheses, examining pre-intervention and post-intervention differences in depression levels across the three groups and evaluating the overall effectiveness of CST within the Pakistani socio-cultural context.

Methodology

The study employed a quantitative, quasi-experimental design conducted in two phases a pilot study followed by a main experimental study. Participants were older adults aged 60–76 recruited through purposive and convenience sampling from community centers, old homes, and retired populations within Rawalpindi and Islamabad (Ali et al., 2022). Inclusion criteria consisted of mild to moderate depressive symptoms, basic literacy in Urdu, absence of dementia or neurological disorders, and no history of substance use (Yesavage & Sheikh, 1986). Data was collected using an Urdu-translated and culturally adapted version of the Geriatric Depression Scale–Short Form (GDS-SF), along with a socio-demographic questionnaire assessing key factors such as marital status, education, financial dependency, physical illnesses, sleep patterns, and bereavement (Blazer, 2013).

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Cognitive Stimulation Therapy (CST) served as the intervention and was adapted using WHO translation guidelines to ensure cultural relevance. The study aimed to evaluate CST's effectiveness as a non-pharmacological intervention for reducing geriatric depression in a Pakistani cohort (Spector et al., 2003).

Measures

Depression levels were evaluated using the Urdu translated version of the Geriatric Depression Scale–Short Form (GDS-SF), with Cronbach's alpha value α = .56; (Sheikh & Yesavage, 1986). Additionally, a socio-demographic sheet was administered to gather essential background information, including marital status, education, employment, family structure, physical health conditions, sleep patterns, and any recent experiences of bereavement, all of which are known to influence late-life mental health (Blazer, 2013). The intervention implemented in the study Cognitive Stimulation Therapy (CST), an evidence-based psychosocial program widely recognized for its effectiveness in promoting cognitive engagement and emotional well-being among older adults (Spector et al., 2003).

Procedure

After receiving institutional ethical approval, participants were briefed individually about the study objectives and procedures, and written informed consent was obtained. Baseline depressive symptoms were recorded using the Urdu GDS-SF. Participants were then assigned to small CST groups comprising 5–8 individuals. The CST intervention was delivered over 14 structured sessions, each lasting 45–60 minutes (Aguirre et al., 2011), incorporating cognitively stimulating and socially engaging activities such as reminiscence discussions, problem-solving tasks, naming and categorization games, and culturally relevant traditional games (Woods et al., 2012). Sessions were facilitated in safe, familiar settings to maximize comfort and participation (Aguirre et al., 2013). Upon completion of the CST cycle, participants were re-evaluated using the same depression scale. In the main study phase, pre- and post-intervention scores across three groups; community-dwelling elderly, old-home residents, and retirees were compared to determine the overall impact of CST and explore differences based on living environment (Scherer et al., 2019). All data were handled confidentially and analyzed using appropriate statistical procedures to assess intervention outcomes.

Results

Descriptive and inferential analyses were conducted to examine CST effectiveness. In the pilot study (N = 20), a paired-samples *t*-test indicated a significant decrease in depressive symptoms following CST, consistent with earlier CST trials (Spector et al., 2003). Pre-test mean scores dropped from 8.95 to 5.05, reflecting improved mood and well-being (Aguirre et al., 2011). In the main study (N = 30), CST demonstrated similarly strong effects. Pre-test depression scores varied significantly across community-dwelling elderly, retirees, and old-home residents, aligning with research linking living environment to geriatric mental health (Blazer, 2013). ANOVA results showed old-home residents had the highest depression levels. Post-intervention paired-samples tests indicated significant reductions across all groups, supporting CST's overall efficacy (Woods et al., 2012). Qualitative observations echoed existing literature showing enhanced engagement and improved

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affect during CST (Aguirre et al., 2013). Overall, results show CST is effective for geriatric depression in Pakistani contexts, consistent with global findings (Spector et al., 2003).

Conclusion

The present study provides compelling evidence for the effectiveness of Cognitive Stimulation Therapy as a culturally appropriate, non-pharmacological intervention for reducing depressive symptoms among older adults in Pakistan. Across two systematically conducted phases involving community-dwelling individuals, retirees, and old-home residents, CST significantly reduced depressive symptoms, supporting its applicability across diverse geriatric populations. Importantly, the intervention benefited individuals with varying baseline depression levels, with particularly strong effects observed among institutionalized older adults, a group at heightened risk due to isolation and limited psychosocial support.

Findings contribute to the growing literature on CST by demonstrating its relevance within South Asian cultural contexts and its feasibility in low-resource settings (Gong et al., 2025). The use of culturally adapted activities, social interaction, and structured cognitive engagement played a central role in enhancing participants' emotional and cognitive functioning. These outcomes underscore CST's potential for integration into community-based mental health services, primary care, and elder-care programs across Pakistan. Despite promising results, the study acknowledges limitations including small sample size, limited geographic representation, and absence of long-term follow-up measures. Future research should incorporate larger samples, randomized controlled designs, and longitudinal assessments to further validate CST's sustained impact. Nonetheless, the present findings highlight CST as an accessible, scalable, and cost-effective approach for improving mental health outcomes among older adults and emphasize its alignment with global and national priorities for healthy aging and non -pharmacological mental health interventions.

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