

# The Impact of Culturally Adapted Cognitive-Behavioral Intervention on Psychological and QoL Outcomes in Chinese Children with Hematological Cancer: A Randomized Controlled Trial

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## Abstract

**Objective:** Cognitive-behavioral intervention (CBI) has demonstrated positive effects in improving psychological and health-related outcomes among children with cancer. However, its application within the cultural context of China remains underexplored. This study aimed to evaluate the effects of a culturally adapted CBI on anxiety, depression, and quality of life (QoL) in Chinese children with hematological cancer receiving chemotherapy. **Methods:** A parallel, assessor-blinded, randomized controlled trial was conducted, enrolling 80 children who were randomly assigned (1:1) to either the CBI group or the standard care group. The intervention group received five weekly face-to-face CBI sessions, each lasting 30-40 minutes. The intervention included an introduction to CBI, identification and modification of maladaptive thoughts and behaviors, behavioral activation, culturally tailored relaxation techniques (e.g., Tai Chi breathing exercises), and treatment evaluation with relapse prevention. Outcomes were assessed at baseline (T0), immediately post-intervention (T1), and one month post-intervention (T2). **Results:** Compared to the control group, the CBI group showed significant reductions in anxiety scores at T1 ( $\beta = -7.23$ , 95% CI [-9.75, -4.71],  $p < 0.001$ ) and further at T2 ( $\beta = -8.89$ , 95% CI [-11.45, -6.33],  $p < 0.001$ ). Depression scores also decreased significantly at T1 ( $\beta = -4.56$ , 95% CI [-7.41, -1.71],  $p = 0.002$ ) and T2 ( $\beta = -6.78$ , 95% CI [-9.76, -3.80],  $p < 0.001$ ). Additionally, QoL improved significantly at T2 ( $\beta = 3.45$ , 95% CI [0.92, 5.98],  $p = 0.008$ ). **Conclusions:** The culturally adapted CBI effectively reduced anxiety and depression symptoms while significantly enhancing the quality of life in Chinese children with hematological cancer undergoing chemotherapy. These findings underscore the importance of integrating CBI into pediatric hematology-oncology care in China. Further research is warranted to explore its long-term effects and cost-effectiveness.

## Keywords

Cognitive Behavioral Therapy, Hematologic Neoplasms, Child, Mental Health, Randomized Controlled Trial