

# Social Support and Positive Expectations: Alleviating PTSD Symptoms in Parents of Children with Acute Lymphoblastic Leukemia

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## About the Study

Acute Lymphoblastic Leukemia (ALL) is a cancer predominantly found in children, where abnormal white blood cells accumulate in the bone marrow, making it the leading form of cancer diagnosed in children, comprising nearly half of all new cases in China [1]. Thanks to significant improvements in medical treatments, the survival rate for children with ALL has reached an estimated 70% over a five-year period [1]. However, this survival comes with the challenges of enduring extensive treatment regimens, which can last for several years and are often intense, causing physical discomfort, emotional strain, and potential long-term side effects such as infertility, hormonal imbalances, and cognitive impairments [2]. The journey is not only difficult for the children but also for their parents, who bear the brunt of providing support and care while managing the emotional toll and the financial burden of the disease, while also trying to maintain stability in their family life, relationships, and work [3]. The diagnosis of ALL and the subsequent treatment place a considerable strain on the family unit, impacting not just the child's well-being but also the parents' ability to fulfill their multiple roles and responsibilities.

Against the backdrop of existing medical literature, our research is designed to identify the health-related hardships endured by pediatric patients throughout the extended course of ALL treatment and to examine the elements that may lead to symptoms of Post-Traumatic Stress Disorder (PTSD) in their parents. By assessing the correlation between the level of social support received and the manifestation of

PTSD symptoms in parents, and also by probing into how positive expectations might serve as a buffer in this context, our work aims to provide a more comprehensive view of the interaction between psychological and social factors. The study's results bring to light the necessity for consistent monitoring of PTSD symptoms and advocate for the development of specific support mechanisms aimed at both the young patients and their main caregivers. This investigation adds to the relatively sparse research on PTSD in parents of children battling ALL, emphasizing the significance of social support and optimistic outlooks as key factors in alleviating emotional strain.

The present study offers several innovative contributions to the understanding of Post-Traumatic Stress Disorder (PTSD) symptoms among parents of children with Acute Lymphoblastic Leukemia (ALL). Firstly, while previous research has primarily focused on PTSD in parents of pediatric cancer survivors in general [4-6] our study specifically addresses the unique experiences of parents of children with ALL. This focus is essential given the distinct and prolonged treatment regimen associated with ALL, which includes repeated venipuncture, chemotherapy, and spinal puncture [2,7,8]. Secondly, our study is among the first to explore the mediating role of positive expectations, such as optimism and self-efficacy, in the relationship between social support and PTSD symptoms. This novel approach builds on the transactional theory of stress and coping [8] and extends the findings of Wang et al [9], who demonstrated the mediating role of self-efficacy in patients with central nervous system tumors. By highlighting these mediating factors, our research provides a more comprehensive understanding of the psychological

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mechanisms that can mitigate PTSD symptoms in this specific parent population.

The findings of our study have significant implications for clinical practice and policy-making. The demonstrated association between social support and reduced PTSD symptoms emphasizes the importance of integrating social support interventions into the care plans for parents of children with ALL [10]. Healthcare providers should consider implementing structured support programs that offer emotional, informational, and practical assistance to these parents [11]. Such programs could include peer support groups, counseling services, and educational workshops designed to enhance coping strategies and adaptability [10,12]. Additionally, our findings suggest and promotes positive expectations, such as optimism and self-efficacy, can further alleviate PTSD symptoms [13,14]. Therefore, interventions aimed at boosting these psychological resources should be developed and tested. For instance, Cognitive-Behavioral Therapy (CBT) techniques that focus on building self-efficacy and promoting optimistic thinking could be particularly beneficial [15,16]. Policymakers should also recognize the financial burden associated with ALL treatment, as highlighted by the fact that 65.1% of pediatric ALL patients' insurance covered less than 50% of overall payment in China (Chinese Red Cross Foundation). Addressing this economic strain through improved insurance coverage and financial support programs could significantly reduce the stress experienced by these families [17,18].

Despite the valuable insights provided by our study, several limitations must be acknowledged. One major limitation is the relatively small sample size, which may affect the generalizability of our findings. Future research should aim to include larger, more diverse samples to validate our results. Additionally, our study was cross-sectional in nature, which limits the ability to draw causal inferences. Longitudinal studies are needed to examine the temporal relationships between social support, positive expectations, and PTSD symptoms. Another limitation is the reliance on self-reported measures, which may be subject to response biases. Incorporating objective assessments and multi-informant reports could enhance the robustness of the findings. Finally, our study was conducted in a single country, which may limit the applicability of the results to other cultural contexts. Cross-cultural studies are warranted to explore the universality of the observed associations and to identify culturally specific factors that may influence PTSD symptoms in parents of children with ALL.

In conclusion, after accounting for various factors, psychosocial elements were found to account for 12.3% to 21.4% of the variation in PTSD symptomatology. The presence of positive expectations was identified as a complete mediator in the relationship between perceived social support and PTSD symptoms. It appears that parents with a greater sense of social support are likely to have more positive expectations, potentially resulting in fewer PTSD symptoms. Consequently, it is recommended that social support and positive expectations be integral components of PTSD prevention and treatment programs for Chinese parents of children with ALL.

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