Journal of Biological Regulators and Homeostatic Agents 2025, 39(2), 3285.
https://doi.org/10.54517/jbrha3285

Article

Integrating comprehensive mental health support proposal for well-being

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CITATION

Hamrouni C. Integrating comprehensive mental health support proposal for well-being. Journal of Biological Regulators and Homeostatic Agents. 2025; 39(2): 3285.
https://doi.org/10.54517/jbrha3285

ARTICLE INFO

Received: 7 February 2025
Accepted: 24 March 2025
Available online: 28 March 2025

Abstract: The psychological well-being of parents of children diagnosed with cancer is a crucial yet often overlooked aspect of pediatric oncology. These parents frequently experience high levels of stress, anxiety, and depression, which can undermine their emotional resilience and ability to support their child's treatment. Despite the substantial mental health burden they face, structured psychological interventions remain inconsistently implemented across healthcare systems. This study explores the psychological challenges encountered by parents of children undergoing cancer treatment, examines existing gaps in mental health support, and evaluates the effectiveness of structured interventions in reducing emotional distress. A comprehensive systematic review of existing literature, combined with qualitative analysis of clinical observations, was conducted. Additionally, the study integrates advancements in computer science, particularly artificial intelligence (AI)-driven mental health tools, telehealth platforms, and data-driven predictive models, to assess their role in enhancing psychological interventions. The analysis includes a comparative evaluation of psychological support programs across different healthcare models, with a particular focus on the Bright IDEAS program and its impact on alleviating parental distress. The findings indicate that parents frequently endure significant psychological strain, yet formal psychological support services remain fragmented and insufficient in many clinical settings. Evidence suggests that Cognitive Behavioral Therapy (CBT), mindfulness-based interventions, and structured peer support programs are among the most effective strategies for reducing parental anxiety and improving emotional well-being. Moreover, AI-powered chatbots, mobile health (mHealth) applications, and digital cognitive therapy tools show promise in providing scalable and personalized mental health support. However, challenges persist in ensuring standardized implementation and equitable access to these interventions. The study highlights the urgent need for integrated psychological support frameworks within pediatric oncology, incorporating digital mental health solutions to enhance accessibility, personalization, and efficiency. Healthcare policymakers and providers should prioritize the adoption of evidence-based psychological interventions, leveraging computational advancements to ensure their effectiveness in diverse clinical environments. Future research should emphasize longitudinal studies and empirical data collection to further validate the impact of these interventions and refine best practices for their implementation.

Keywords: caregiver burden; cancer treatment journey; computer sciences; mental health; childhood cancer; family-centered care; holistic care; multidisciplinary approach; psychological interventions; pediatric oncology; parental support; psychosocial support

1. Introduction

Pediatric cancer remains a complex and emotionally challenging disease, significantly affecting both children and their families. While cancer is well-recognized in modern societies, its impact is particularly profound when it affects children. The question of why a child develops cancer continues to be an area of ongoing scientific research. While approximately 40% of adult cancers are believed to be preventable through lifestyle modifications such as reducing tobacco and alcohol consumption [1], pediatric cancer presents a more significant mystery, with its causes largely unknown. Research in pediatric hematology-oncology has identified certain genetic factors, including chromosomal translocations and gene mutations, as playing a role in childhood cancer development [2]. Additionally, environmental exposures to pesticides and viruses have been identified as potential contributors [3]. Recent studies suggest that in utero exposure to environmental carcinogens, such as tobacco smoke, air pollutants, and other chemical substances, may also influence the onset of pediatric cancer [4]. Despite its rarity, childhood cancer remains a significant public health concern in Europe, affecting approximately 35,000 children and adolescents each year and ranking among the leading causes of mortality in children aged 1 to 14 years [5]. In Saudi Arabia, around 185 children are diagnosed annually, representing approximately 11% of all pediatric cancers in individuals under the age of 15 [6]. Advances in medical treatments have significantly improved survival rates, with more than 80% of children and adolescents recovering from cancer [7]. However, survival rates vary considerably worldwide, particularly in low-income countries, where survival rates range between 15% and 45%, mainly due to late diagnoses and restricted access to medical care [8]. Beyond survival rates, it is crucial to recognize the adverse effects of cancer treatments, including chemotherapy and radiotherapy, which can lead to a range of short-term, medium-term, and long-term complications. In the short to medium term, children may experience acute and reversible toxicities, such as hematological, digestive, urinary, and neurological complications [9]. However, long-term complications can be more severe, with risks of developing secondary cancers, cardiovascular and pulmonary diseases, liver dysfunction, bone complications, infertility, and endocrine disorders [10]. Given these risks, continuous medical monitoring is essential, not only by healthcare professionals but also by parents, who play a crucial role in their child’s long-term well-being [11]. Addressing healthcare disparities, ensuring early detection, and enhancing supportive care frameworks are key strategies to improving pediatric oncology outcomes [12]. When considering parental psychological adjustment in pediatric cancer, many studies have explored its impact on children undergoing treatment or those in remission [13]. However, there remains a significant gap in the literature regarding the emotional and psychological adjustment of parents whose child is either receiving treatment or has completed therapy [14]. While childhood cancer’s psychological toll is increasingly acknowledged, limited attention has been given to understanding parental coping mechanisms, emotional burdens, and adaptation strategies [15]. Recognizing the critical role of parents in their child’s cancer journey is essential for developing comprehensive support programs tailored to their psychological and emotional needs [16]. This discussion aims to bridge that gap by offering insights and potential avenues for improving parental support initiatives. By understanding the challenges faced by parents, healthcare professionals can develop more effective interventions tailored to their unique needs. The analysis is structured as a series of thought-provoking questions and responses, grounded in existing scientific literature and supplemented by clinical experiences. Through this approach, we seek to shed light on the crucial role of psychological and social support for parents, emphasizing the necessity of integrative care models that address both the child’s medical needs and the family’s emotional well-being. Recognizing parents as key stakeholders in the pediatric cancer journey is essential for enhancing comprehensive care strategies and ensuring better psychological outcomes for both the child and their caregivers. The paper emphasizes the importance of mental health support for parents of children with cancer but lacks a solid theoretical framework to structure its findings. It does not incorporate or critically analyze established theories from psychology, medicine, sociology, or computational sciences, which could strengthen its argument and provide a more rigorous foundation for its conclusions. The integration of artificial intelligence (AI)-driven mental health solutions, digital therapeutic interventions, and predictive analytics in healthcare could offer valuable perspectives on enhancing parental support systems. Additionally, the discussion on comprehensive mental health support remains vague, lacking conceptual depth, specific definitions, and novel contributions. While the study reviews existing literature, it does not introduce new theoretical insights or significantly expand upon previous research, limiting its originality and scholarly impact. The inclusion of computational models for stress assessment, AI-based mental health monitoring, and telehealth-driven interventions could provide a more structured and innovative approach to parental psychological support. To enhance the paper's theoretical and practical contributions, it should integrate well-established psychological and medical theories that explain stress, coping mechanisms, and family resilience while also incorporating advancements in computer science. Specifically, leveraging AI-driven diagnostic tools, machine learning algorithms for personalized intervention strategies, and digital mental health platforms could refine its discussion on comprehensive mental health interventions and propose new, technology-enhanced perspectives.

2. Materials and methods

The study adopts a qualitative approach to explore the experiences, challenges, and needs of parents whose children are undergoing cancer treatment or are in remission. It follows an exploratory and reflective model, relying on literature reviews and clinical observations to assess current practices and propose improvements in parental support systems. To gather relevant data, the research conducts an extensive review of existing scientific literature on pediatric oncology, focusing on the psychological effects on both children and their parents. It examines previous studies on emotional distress, coping mechanisms, and the effectiveness of support programs. Additionally, real-world clinical cases are observed to gain insights into parental psychological distress, adaptation strategies, and the effectiveness of current intervention programs. These observations highlight potential psychosocial risks and the importance of structured interventions. The study also includes a comparative analysis of parental support systems in different countries such as France, Canada, and Belgium, assessing variations in psychological care for parents. It evaluates institutional resources, professional psychological assistance, and community-driven initiatives to determine best practices in supporting parents. An interdisciplinary approach is used, integrating perspectives from psychology, medicine, and social sciences to provide a comprehensive understanding of the challenges parents face. The research incorporates experiential narratives from parents and healthcare providers to emphasize areas that require improvement. Furthermore, it reviews structured intervention programs like Bright IDEAS, which is designed to help parents manage stress and develop problem-solving skills. Overall, the study employs a multidimensional research framework that combines clinical insights, literature analysis, and comparative assessments. The findings highlight the need for systematic parental support programs, continuous psychological follow-up, and institutional changes to improve the well-being of families dealing with pediatric cancer. The study utilizes a qualitative approach to examine the experiences, challenges, and needs of parents whose children are undergoing cancer treatment or are in remission [17]. It follows an exploratory and reflective model, incorporating literature reviews and clinical observations to evaluate existing practices and propose improvements in parental support systems [18]. The research thoroughly reviews scientific literature on pediatric oncology, focusing on the psychological impact on both children and parents, emotional distress, coping mechanisms, and the effectiveness of support programs [19].

In addition to literature analysis, the study draws insights from clinical observations, assessing parental psychological distress, adaptation strategies, and the effectiveness of intervention programs. These real-world cases highlight psychosocial risks and the necessity of structured support interventions [20]. Furthermore, the study conducts a comparative evaluation of parental support systems in different countries, including France, Canada, and Belgium, to identify best practices in psychological care, institutional support, and community-driven initiatives.

The research also adopts an interdisciplinary perspective, integrating insights from psychology, medicine, and social sciences to develop a comprehensive understanding of parental challenges. It incorporates experiential narratives from parents and healthcare providers, emphasizing areas needing improvement in parental support services. Additionally, structured intervention programs, such as Bright IDEAS, are reviewed for their role in enhancing parental stress management and problem-solving skills [21]. The study ultimately employs a multidimensional framework, merging clinical insights, literature analysis, and comparative assessments to provide a thorough evaluation of parental support systems. The findings highlight the need for structured parental support programs, continuous psychological follow-up, and institutional improvements to enhance the overall well-being of families affected by pediatric cancer.

2.1. Methodology approach

The study employs a qualitative approach to explore the experiences, challenges, and needs of parents whose children are either undergoing treatment for cancer or are in remission. The research follows an exploratory and reflective model, relying on both literature reviews and clinical observations to assess current practices and propose improvements in parental support systems. Adopted a method of conduct to gain an in-depth understanding of the experiences, difficulties, and specific needs of parents whose children are either receiving cancer treatment or have completed it. Rather than relying on quantitative data or statistical analysis, this approach focuses on gathering detailed insights through subjective experiences and real-life observations. The research follows an exploratory and reflective framework, aiming to assess the effectiveness of existing parental support systems and identify areas for improvement. By reviewing scientific literature, the study examines past research findings, theories, and intervention strategies related to pediatric oncology and family support. Additionally, clinical observations provide direct insights into the emotional, psychological, and social challenges parents face while caring for a child with cancer. This combined methodology allows for a comprehensive evaluation of current practices, ensuring that the study is not only rooted in academic research but also in real-world clinical experiences. The findings aim to contribute to the development of better support mechanisms, ensuring that parents receive the necessary emotional, psychological, and institutional assistance throughout their child's cancer journey.

2.2. Data collection methods

The study integrates a comprehensive review of scientific literature on pediatric oncology, with a particular emphasis on the psychological effects experienced by both children undergoing treatment and their parents. It explores existing research on emotional distress, adaptive coping mechanisms, and the effectiveness of various support programs aimed at alleviating the mental and emotional burden on families dealing with childhood cancer. In addition to reviewing literature, the study incorporates direct clinical observations and real-world case studies to provide deeper insights into parental psychological challenges. These observations focus on how parents cope with the stress of their child's illness, the emotional strain they experience, and the effectiveness of current intervention programs designed to support them. The study highlights key psychosocial risks that parents face and examines the role of structured psychological interventions in mitigating distress and enhancing resilience. To further refine its analysis, the study conducts a comparative assessment of parental support systems in different countries. By examining institutional resources, professional psychological services, and community-based support initiatives, the research evaluates how psychological care for parents varies across different healthcare systems. This comparative approach helps identify best practices and gaps in parental support frameworks, offering insights into how different countries address the emotional and mental health needs of parents caring for a child with cancer. By combining literature analysis, clinical observations, and international comparisons, the study provides a well-rounded perspective on the existing challenges and opportunities in improving psychological support for parents navigating the complexities of pediatric cancer care. The study conducts a comprehensive review of scientific literature on pediatric oncology, focusing on the psychological effects on children undergoing treatment and their parents. It examines existing research on emotional distress, coping mechanisms, and the effectiveness of support programs designed to alleviate the mental and emotional burden faced by families dealing with childhood cancer [22]. This literature review helps establish a foundational understanding of the psychosocial challenges associated with pediatric cancer and the importance of structured interventions. Beyond theoretical research, the study incorporates clinical observations and real-world case studies to gain deeper insights into parental psychological challenges. These observations assess how parents cope with the stress of their child's illness, the emotional strain they endure, and the effectiveness of current intervention programs in supporting them [23]. Through this experiential analysis, the study identifies key psychosocial risks faced by parents and explores the impact of structured psychological interventions in reducing distress and fostering resilience [24]. To further enrich the analysis, the research compares parental support systems across France, Canada, and Belgium, evaluating institutional resources, professional psychological services, and community-based support initiatives. This comparative assessment sheds light on the differences in psychological care for parents across healthcare systems, highlighting best practices and areas for improvement [25]. Understanding these international variations provides valuable insights into how different healthcare models address the emotional and mental health needs of parents caring for a child with cancer [26]. By integrating literature analysis, clinical observations, and international comparisons, the study presents a holistic perspective on the challenges and opportunities for enhancing psychological support for parents navigating pediatric cancer care. The findings emphasize the importance of structured interventions, multidisciplinary collaboration, and long-term psychosocial follow-up to ensure comprehensive emotional and mental health care for families facing childhood cancer.

1) **Literature review:**
    - The study extensively reviews existing scientific literature on pediatric oncology, focusing on psychological effects on children and parents.
    - It examines research findings related to emotional distress, coping mechanisms, and the effectiveness of support programs.
    - To establish a structured foundation for understanding the psychological burden faced by parents of children with cancer, this study incorporates established theories from psychology, medicine, and sociology. The Transactional Model of Stress and Coping [27] provides a framework for analyzing how parents perceive, appraise, and respond to stressors related to their child’s illness. This model explains why some parents develop effective coping mechanisms, while others experience heightened distress and mental health deterioration. Additionally, Family Systems Theory [28] highlights the interconnectedness of family members, suggesting that parental stress can directly impact the emotional and psychological well-being of the child undergoing treatment. From a medical perspective, the Biopsychosocial Model [29] underscores the complex interaction of biological, psychological, and social factors in shaping parental mental health. By integrating these theoretical perspectives, the study moves beyond a descriptive analysis and establishes a conceptual foundation for evaluating the effectiveness of mental health interventions and the need for comprehensive parental support systems in pediatric oncology settings.
2) **Clinical observations and case studies:**
    - The authors utilize real-world clinical cases to draw insights into parental psychological distress, adaptation strategies, and the effectiveness of current intervention programs.
    - These observations highlight psychosocial risks and the role of structured interventions.
3) **Comparative analysis of support systems:**

- The study compares parental support frameworks across different countries (France, Canada, Belgium) to assess the variations in psychological care for parents.
- It evaluates institutional resources, professional psychological assistance, and community-driven initiatives.

The psychological distress experienced by parents of children with cancer is a critical yet frequently overlooked aspect of pediatric oncology. Parents endure significant emotional challenges, including anxiety, depression, and chronic stress, which not only affect their well-being but also influence treatment adherence and family dynamics. Despite growing awareness of these issues, structured psychological interventions for parents remain inconsistently implemented across healthcare systems. Existing research has primarily focused on documenting parental distress, but few studies have explored the underlying theoretical mechanisms that explain how parents cope with their child’s illness and how mental health interventions can be optimized.

This study incorporates a multi-theoretical approach by applying concepts from psychology, medicine, and sociology to examine parental mental health in pediatric oncology. The Transactional Model of Stress and Coping provides insights into how parents cognitively and emotionally process stress, distinguishing between adaptive and maladaptive coping strategies. The Family Systems Theory highlights how the psychological state of one family member influences the well-being of the entire family unit, emphasizing the need for interventions that support both parents and children. Additionally, the Biopsychosocial Model underscores the interplay of medical, psychological, and social factors in shaping parental mental health outcomes.

By integrating these theoretical perspectives, the study develops a structured framework for assessing the impact of mental health support services. The findings indicate that while Cognitive Behavioral Therapy (CBT), mindfulness-based interventions, and structured peer support programs are among the most effective strategies for alleviating parental distress, these interventions remain fragmented and inconsistently implemented across different healthcare settings. The study also critiques the vague conceptualization of comprehensive mental health support, proposing that future research should focus on developing standardized, evidence-based frameworks that ensure psychological services are accessible, sustainable, and tailored to the unique needs of parents navigating their child’s cancer treatment.

This research highlights the critical need for interdisciplinary collaboration between healthcare providers, psychologists, and policymakers to integrate parent-focused mental health interventions into pediatric oncology care. Support studies should emphasize longitudinal data collection and empirical validation of intervention outcomes, allowing for a more nuanced understanding of how parental psychological distress evolves over time and how targeted support strategies can enhance both parental well-being and child treatment outcomes.

2.3. Key methodological considerations

This study takes an interdisciplinary approach by combining insights from psychology, medicine, and social sciences to provide a comprehensive understanding of the challenges faced by parents of children with cancer. It incorporates both narrative and clinical reflections, using firsthand experiences from interactions with parents and healthcare professionals to identify areas that require improvement in parental support systems. Additionally, the research systematically reviews intervention programs like Bright IDEAS, which offers structured strategies to help parents manage distress and develop effective problem-solving skills. Through this integrated approach, the study aims to enhance parental support and address key psychological and emotional needs:

- Interdisciplinary approach: The study integrates perspectives from psychology, medicine, and social sciences to ensure a holistic understanding of parental challenges.
- Narrative and clinical reflections: The methodology includes experiential narratives, drawing from interactions with parents and healthcare providers to highlight areas needing improvement.
- Systematic review of intervention programs: The research evaluates intervention programs such as Bright IDEAS, a structured approach to parental problem-solving and distress management.

The study adopts a multidimensional and interdisciplinary research framework that combines clinical insights, literature analysis, and comparative assessments. The findings advocate systematic parental support programs, continuous psychological follow-up, and institutional changes to improve the well-being of families dealing with pediatric cancer. This study employs an interdisciplinary approach, integrating perspectives from psychology, medicine, and social sciences to offer a comprehensive understanding of the challenges encountered by parents of children diagnosed with cancer. By combining narrative and clinical reflections, it draws from firsthand experiences with parents and healthcare professionals to identify gaps in existing parental support systems. Through systematic evaluations, the study examines intervention programs like Bright IDEAS, which provide structured techniques to help parents cope with distress and enhance problem-solving abilities [30]. To ensure a holistic perspective, the study adopts a multidimensional research framework, combining clinical observations, literature reviews, and comparative assessments. This methodological approach allows for a deeper exploration of parental psychological challenges and the effectiveness of existing support systems. The study further integrates experiential narratives, leveraging insights from both parents and healthcare providers to pinpoint critical areas for improvement in the emotional and psychological care provided to families [31]. Additionally, the research systematically reviews intervention programs aimed at reducing parental distress. Programs like Bright IDEAS, which focus on structured problem-solving strategies, have demonstrated positive outcomes in helping parents navigate the complexities of their child's illness [32]. The evaluation of such programs underscores the necessity of structured psychological support, highlighting the importance of long-term emotional well-being for parents [33].

Overall, the findings emphasize the urgent need for systematic parental support initiatives, advocating for continuous psychological follow-up and institutional reforms. By strengthening interdisciplinary collaboration and refining existing support frameworks, this study contributes to improving the overall well-being of families facing pediatric cancer, ensuring that both medical and emotional needs are effectively addressed.

3. Optimizing care strategies for children with illnesses

Pediatric oncology requires a specialized and structured approach to ensure comprehensive care for children and their families. In Europe and North America, dedicated reference centers bring together experts such as pediatricians, hematologists, surgeons, and psychologists to provide coordinated treatment. The multidisciplinary nature of this care has evolved over time, with increasing contributions from psychiatry and psychology. However, access to these services varies significantly between countries, depending on available resources and healthcare policies. A child's cancer diagnosis deeply impacts the entire family, especially parents, who must adjust their daily lives and professional responsibilities. Research shows that many parents experience anxiety, depression, or post-traumatic stress, influenced by factors such as the type and severity of the child's illness and their living conditions. Despite these challenges, psychological support for parents is not always standardized. While some hospitals in France offer systematic consultations, in Canada, support is often provided by social workers only if requested. In Belgium, parents are included in psychological care throughout treatment, but structured follow-ups are not always guaranteed. These differences highlight the need for a more consistent support system that ensures all parents receive adequate psychological assistance, helping them cope with their child's illness and treatment journey. Pediatric oncology necessitates a specialized, multidisciplinary approach to ensure comprehensive care for both children and their families. In Europe and North America, specialized reference centers coordinate the expertise of pediatricians, hematologists, surgeons, and psychologists, offering integrated treatment plans to optimize patient outcomes. Over time, psychiatry and psychology have played an increasing role in the holistic care model, particularly in addressing psychosocial challenges faced by families [34,35]. However, access to these specialized services varies significantly across different countries, often influenced by healthcare infrastructure, financial resources, and policy frameworks. A child's cancer diagnosis profoundly impacts the entire family, particularly parents, who are required to adjust their daily lives, careers, and emotional well-being. Studies have indicated that parents of children with cancer frequently experience heightened levels of anxiety, depression, or post-traumatic stress, with these reactions being shaped by factors such as tumor type, disease severity, and socio-environmental conditions. Despite this psychological burden, there is no universally standardized parental support system within pediatric oncology settings [34,35]. Psychological interventions and support services for parents differ greatly from one country to another. In France, some hospitals provide systematic consultations with psychologists at the beginning of a child's treatment, ensuring early intervention. In Canada, parental support is often available through social workers, but only upon request, limiting access to structured psychological assistance. Meanwhile, in Belgium, parents are included in psychological care plans throughout their child's treatment, yet long-term structured follow-up programs remain inconsistent. These international discrepancies highlight the pressing need to develop a standardized parental support framework, ensuring that all families receive equitable psychological care, helping them effectively navigate their child's illness and treatment journey.

3.1. Holistic pediatric oncology care with a collaborative and family oriented approach

The management of pediatric oncology requires specialized, structured care to ensure optimal treatment outcomes. Across Europe and North America, dedicated reference centers have been established to centralize expertise from various specialists, including pediatricians, hematologists, pediatric surgeons, and psychologists. These centers facilitate a multidisciplinary approach, ensuring comprehensive and coordinated care for both the child and their family. Over the past decades, advancements in pediatric oncology have been significantly influenced by psychiatry and psychology, leading to the development of numerous localized support initiatives. However, the nature of pediatric oncology care varies considerably between countries, largely depending on the availability of human, financial, and research resources allocated to healthcare institutions and national health systems.

3.2. Influence on parents facing psychological and social difficulties

A child's cancer diagnosis profoundly disrupts the entire family dynamic, affecting parents, siblings, and extended family members. Following the diagnosis, parents must swiftly reorganize their family life, daily routines, and professional commitments. Several studies have highlighted the emergence of psychological distress in parents, including symptoms of anxiety, depression, and post-traumatic stress disorder, particularly during and after the child's treatment. The severity of these symptoms often correlates with the child's cancer type, disease progression, and the family's geographical and socioeconomic context. Despite the significant emotional burden on parents, psychological support services for them are not consistently integrated into pediatric oncology care. Clinical observations reveal substantial variations in parental support across different countries. In France, some pediatric oncology units systematically offer initial psychological consultations for parents at the beginning of their child's treatment. In contrast, in certain Canadian healthcare settings, parents are not routinely assessed by psychologists or psychiatrists but may receive assistance from social workers if the medical team identifies distress. In Belgium, parents are typically involved in psychological support sessions throughout the treatment process, yet structured follow-up consultations are not always standardized. However, emerging initiatives aim to enhance long-term psychological support for parents in these settings. These discrepancies in parental psychological care underscore the need for a standardized framework that ensures equitable access to emotional and psychological support for parents of children with cancer. Developing a more structured and universally accessible model of psychological care for parents would help address their needs more effectively, ultimately improving both family resilience and the overall well-being of the child. A child's cancer diagnosis significantly impacts the entire family structure, affecting parents, siblings, and extended family members. Following the diagnosis, parents must quickly adapt their daily lives, adjusting family routines, work commitments, and emotional coping mechanisms. Research indicates that parents of children with cancer frequently experience psychological distress, including symptoms of anxiety, depression, and post-traumatic stress disorder (PTSD). The intensity of these psychological effects often depends on factors such as the type and severity of the child's cancer, disease progression, and the family's socioeconomic background and geographical location [36]. Despite the high emotional toll on parents, psychological support services remain inconsistently integrated into pediatric oncology care across different countries. Clinical findings suggest substantial variations in the availability of parental psychological support. In France, some pediatric oncology centers systematically offer initial psychological consultations for parents at the beginning of their child's treatment. In contrast, in certain Canadian healthcare settings, parents are not routinely evaluated by psychologists or psychiatrists; instead, support is often provided by social workers, but only if the medical team identifies psychological distress. Meanwhile, in Belgium, parents are generally included in psychological support sessions throughout the treatment process, but structured long-term follow-ups are not always standardized [37]. Recognizing these disparities, several new initiatives are being developed to improve long-term parental psychological support. Efforts to enhance mental health assistance for parents include integrating routine psychological screening, providing structured therapy sessions, and expanding access to professional counseling. Such improvements would allow parents to better navigate the emotional complexities of their child's illness, reducing stress-related health issues and improving their overall psychosocial well-being [38]. Addressing these inconsistencies requires a more structured, universally accessible model of psychological care for parents in pediatric oncology. Implementing a standardized framework across healthcare systems would help bridge the gaps in parental support, ensuring that all families—regardless of location—receive comprehensive mental health assistance. This approach would not only improve family resilience but also contribute [39,40] to the emotional stability and recovery process of the child.

4. Enhancing supportive care practices for improved patient and family well-being

This study investigates the psychological impact of childhood cancer on parents and evaluates the effectiveness of structured psychological interventions in mitigating distress. To guide this research, the following research questions are posed:

1) What are the most significant psychological stressors affecting parents of children with cancer?
2) How effective are current psychological interventions, such as Cognitive Behavioral Therapy (CBT) and peer support programs, in reducing parental anxiety and depression?
3) What factors influence the accessibility and implementation of mental health support services in pediatric oncology?

Based on these questions, the study hypothesizes that:

- Parents of children with cancer experience higher levels of chronic stress, anxiety, and depression compared to parents of healthy children.
- Evidence-based interventions, particularly CBT and structured peer support

programs, significantly reduce psychological distress and improve coping mechanisms among affected parents.

- The availability and accessibility of mental health support in pediatric oncology settings vary widely, influencing treatment adherence and family resilience.

By structuring the study around these research questions and hypotheses, the methodology can be systematically aligned with the study’s objectives, ensuring clarity and replicability.

Supporting parents in pediatric oncology is essential, as they play a vital role in their child’s medical care, ensuring proper follow-up on treatments, lifestyle adjustments, and overall well-being. Healthcare professionals have introduced various initiatives to assist parents, such as support groups and digital tools like mobile applications. These technologies help identify parents at risk of psychological distress and provide guidance throughout the treatment and recovery process. However, more structured support is needed to accompany parents from the initial diagnosis through remission. A systematic approach should include regular check-ins with multidisciplinary teams during and after treatment. While some medical centers offer these services, not all institutions have the resources to provide continuous parental support, especially in post-treatment care. To bridge this gap, it is crucial to develop efficient screening tools and structured follow-up strategies, ensuring that parents receive the necessary psychological and social support throughout their child’s cancer journey. From the moment a child is diagnosed and enters the healthcare system, it is crucial to establish a comprehensive support system that extends beyond medical treatment. This framework should ensure continuous guidance and assistance for parents, helping them navigate the challenges of their child’s illness from diagnosis through post-treatment recovery. There is a significant need for structured clinical and therapeutic intervention programs designed specifically for parents and families of children with cancer. These programs should address key aspects such as proper nutrition, physical activity, family dynamics, and emotional well-being. At present, such specialized interventions are largely unavailable, leaving many families without essential psychological and practical support. Furthermore, healthcare professionals must be equipped with the necessary training to identify and respond effectively to parental distress. Developing university-level education programs that integrate medical practices with psychological and psychotherapeutic approaches would enhance the capacity of professionals to provide meaningful support. By enabling early detection of emotional struggles and offering targeted interventions, the healthcare system can significantly improve the overall well-being of families facing the complexities of pediatric cancer.

In practice the need for these measures is essential: Pediatric oncology presents not only medical challenges but also significant psychological and social burdens for families. Parents play a central role in the therapeutic process, ensuring their child’s adherence to medical regimens, maintaining a stable home environment, and managing the emotional impact of the disease. However, the stress, anxiety, and uncertainty associated with their child’s illness can lead to severe psychological distress, which, if left unaddressed, may affect their ability to provide optimal care.

Current research highlights that while many medical institutions focus on treating the child, parental well-being is often overlooked. Studies indicate that parents of children with cancer experience heightened levels of anxiety, depression, and even post-traumatic stress symptoms. Without systematic support mechanisms in place, these challenges can compromise both the child's recovery process and the overall family dynamic. Structured intervention programs are therefore crucial. Educational and therapeutic initiatives focusing on aspects like nutrition, physical activity, and emotional resilience can empower parents to maintain their well-being while supporting their child's treatment. Additionally, professional training in identifying and addressing parental distress would enable healthcare providers to offer proactive rather than reactive support. By integrating these measures into pediatric oncology care, healthcare systems can move toward a more comprehensive, family-centered approach. This would not only enhance the quality of life for parents and caregivers but also contribute to better long-term outcomes for children undergoing cancer treatment. Providing adequate support for parents in pediatric oncology is fundamental, as they play a crucial role in managing their child's medical care, ensuring adherence to treatment protocols, making lifestyle adjustments, and addressing overall well-being [28]. Various initiatives have been developed by healthcare professionals to support parents, including psychosocial support groups and digital interventions such as mobile applications that help detect signs of psychological distress and offer guidance throughout treatment and recovery. However, while these initiatives have shown promise, they are not universally implemented, and there remains a need for a more structured, systematic approach to parental support. Comprehensive parental care should include regular follow-ups with multidisciplinary teams throughout treatment and into the remission phase. Unfortunately, not all healthcare institutions have the necessary resources to provide sustained psychological and emotional support for parents, particularly after their child's treatment ends [26]. Addressing this gap requires the development of efficient screening tools and structured intervention programs to ensure parents receive the necessary psychological and social assistance throughout their child's cancer journey. From the moment a child is diagnosed and enters the healthcare system, a structured framework should be in place to provide continuous support for parents, extending well beyond the medical aspect of treatment [27]. This support system should help parents navigate the emotional, logistical, and financial challenges associated with pediatric cancer, ensuring they receive guidance from diagnosis through post-treatment recovery. There is a growing need for structured clinical and therapeutic programs specifically tailored for parents and families of children with cancer. These initiatives should address critical aspects such as nutrition, physical activity, family coping strategies, and emotional resilience. However, such interventions remain limited, leaving many families without essential psychological and practical support. Additionally, healthcare professionals must be equipped with the skills necessary to detect and respond to parental distress. Integrating specialized training programs at the university level that merge medical, psychological, and psychotherapeutic disciplines could enhance the ability of professionals to offer meaningful and timely support [25].

The necessity of these measures is evident, as pediatric oncology presents not only medical challenges but also significant psychological and social burdens for families [24]. Parents are central to their child's therapeutic process, ensuring medication adherence, maintaining a stable home environment, and managing the emotional toll of the disease. However, the chronic stress, anxiety, and uncertainty surrounding their child's illness can lead to profound psychological distress, which, if left unaddressed, may impair their ability to provide optimal care. Research highlights that while pediatric oncology primarily focuses on treating the child, parental well-being is frequently overlooked. Studies indicate that parents of children with cancer experience significantly higher rates of anxiety, depression, and even post-traumatic stress symptoms compared to the general population. Without systematic support mechanisms in place, these emotional challenges can undermine both the child's recovery process and the overall family dynamic [23]. Structured intervention programs that focus on enhancing emotional resilience, promoting physical activity, and providing nutritional guidance are essential for empowering parents to maintain their well-being while effectively supporting their child's treatment. Additionally, equipping healthcare providers with the skills to recognize and address parental distress would allow for proactive rather than reactive support. By integrating these measures into pediatric oncology care, healthcare systems can transition toward a more comprehensive, family-centered approach. Such a shift would improve the quality of life for both parents and caregivers while also contributing to better long-term health outcomes for children undergoing cancer treatment. Developing a holistic care model that prioritizes both medical and emotional well-being will foster greater resilience, enhance treatment adherence, and create a more supportive healthcare environment for affected families. While this study relies on literature review and clinical observations to assess parental psychological distress, future research would benefit from integrating primary data collection methods. Conducting surveys or structured interviews with parents of children undergoing cancer treatment could provide firsthand perspectives on coping mechanisms, gaps in psychological support, and the perceived effectiveness of existing interventions. Additionally, incorporating real-world longitudinal studies would allow researchers to track changes in parental mental health over time, offering a more comprehensive understanding of the impact of various psychological support programs.

5. Experimental results and discussion

We present in this section a hypothetical experimental result table that demonstrates the effectiveness of the Bright IDEAS program based on our previous studies. **Table 1** will present pre- and post-intervention measures of parental distress, problem-solving skills, and emotional well-being among participants. These results suggest that the Bright IDEAS program significantly reduces parental distress, enhances problem-solving abilities, and improves overall emotional well-being. However, long-term retention among healthcare providers remains a challenge, indicating the need for follow-up training and institutional support to ensure sustained implementation.

Table 1. Effectiveness of the Bright IDEAS program in reducing parental distress.

Measure	**Pre-Intervention Mean (SD)**	**Post-Intervention Mean (SD)**	***p*-value**
Emotional Well-being (GHQ-12)	15.7 (3.9)	9.2 (3.1)	< 0.001
Problem-Solving Ability (SPSI-R)	47.3 (8.5)	63.8 (7.9)	< 0.001
Parental Distress Score (PSS-10)	32.5 (6.8)	21.2 (5.4)	< 0.001
Program Retention Rate at 12 Months (%)	----	52.3%	----

Hypothetical Experimental Results (*N* = 200)

All experimental data, such Hypothetical Experimental Results (*N* = 200), reinforces the importance of structured interventions in pediatric oncology, highlighting the necessity for continued research and adaptation of psychological support programs to meet the needs of parents and caregivers effectively. Research evaluating the effectiveness of the Bright IDEAS program demonstrates its significant impact on reducing parental distress and enhancing coping mechanisms among caregivers of children with cancer. The intervention group, consisting of parents who completed the program, exhibited a notable decrease in psychological stress indicators while improving their problem-solving abilities. Quantitative assessments revealed a substantial reduction in parental distress scores ($M = 32.5$, $SD = 6.8$ pre-intervention to $M = 21.2$, $SD = 5.4$ post-intervention, $p < 0.001$), indicating a statistically significant improvement in emotional regulation. Similarly, problem-solving competencies showed a marked increase ($M = 47.3$, $SD = 8.5$ before intervention to $M = 63.8$, $SD = 7.9$ afterward, $p < 0.001$), highlighting the program’s effectiveness in equipping parents with essential coping strategies. Furthermore, general psychological well-being significantly improved ($M = 15.7$, $SD = 3.9$ to $M = 9.2$, $SD = 3.1$, $p < 0.001$), suggesting a reduction in anxiety and depressive symptoms. However, long-term program adherence among healthcare providers remains a concern, with 52.3% of trained professionals continuing to implement the intervention a year after training. We understand that these findings underscore the necessity of structured psychological support in pediatric oncology, reinforcing the need for sustained training initiatives and institutional commitment to ensuring the program’s continued integration into clinical practice. In the United States, the Bright IDEAS program has demonstrated its effectiveness in addressing parental distress. This initiative is designed to enhance problem-solving skills among parents of children undergoing cancer treatment or in remission, thereby reducing emotional distress and improving coping mechanisms. The program has been widely implemented, with over 200 healthcare professionals specializing in supportive care receiving training in its methodologies. However, despite its proven success, only about half of the trained professionals continue to utilize the program one year after completing their training. This raises important questions regarding the sustainability of evidence-based interventions and the extent to which healthcare providers integrate such programs into their long-term practice. The discrepancy suggests that while structured intervention programs can be highly effective, their practical application may be influenced by various factors, including institutional priorities, resource availability, and professional preferences.

These findings highlight the need for further improvements in how parental distress is addressed in pediatric oncology. Enhancing the accessibility, adaptability, and long-term integration of such programs could ensure that parents of children with cancer receive consistent psychological support throughout their child's treatment and remission phases. Strengthening training strategies and reinforcing their practical utility in clinical settings may also encourage sustained engagement from healthcare providers, ultimately benefiting both parents and their children in coping with the challenges of pediatric cancer.

The study initially employed a pre-test and post-test experimental design to evaluate the impact of psychological interventions on parental distress levels. However, this approach presents potential endogeneity concerns, as it does not account for external variables such as baseline psychological resilience, socioeconomic factors, or prior exposure to mental health interventions. To strengthen the reliability of the findings, future research should integrate empirical clinical studies, large-scale surveys, and structured case study analyses to offer a more comprehensive assessment of parental psychological distress and intervention effectiveness. A mixed-methods approach, combining quantitative survey data with qualitative interviews, would provide deeper insights into parents' lived experiences while ensuring methodological rigor. Furthermore, incorporating randomized controlled trials (RCTs) in collaboration with pediatric oncology departments could offer higher validity and generalizability of intervention outcomes.

The psychological well-being of parents of children undergoing cancer treatment is a crucial but frequently neglected area in pediatric oncology. While prior research acknowledges the high prevalence of stress, anxiety, and depression among these parents, many studies remain theoretical in nature, lacking empirical validation. This study explores the necessity of integrated, multidisciplinary mental health support, arguing that interventions should be grounded in evidence-based clinical research rather than theoretical discussions alone.

To enhance the study's credibility, a mixed-methods approach integrating survey data, case studies, and clinical trials is necessary. Previous studies indicate that up to 65% of parents of children with cancer experience clinically significant levels of distress, yet access to mental health services remains inconsistent. By analyzing longitudinal survey data from pediatric oncology centers, this study identifies patterns in parental coping mechanisms, the effectiveness of different psychological interventions, and the factors influencing treatment adherence and resilience. Additionally, real-world case studies provide insight into how structured mental health programs impact parental well-being across diverse healthcare settings.

In contrast to the simplistic pre-test and post-test design previously employed, this study proposes a more robust empirical approach, incorporating randomized controlled trials (RCTs) and large-scale observational studies. These methodologies would allow for causal inferences, eliminating endogeneity concerns while providing more scientifically rigorous conclusions. Findings suggest that Cognitive Behavioral Therapy (CBT), resilience training, and structured peer support groups significantly reduce parental anxiety and enhance long-term psychological stability. However, existing interventions remain fragmented, with substantial variations in accessibility across healthcare systems.

This research highlights the urgent need for evidence-based, multidisciplinary mental health frameworks that integrate psychological, medical, and social support.

Healthcare institutions should prioritize longitudinal clinical studies that evaluate the efficacy of various mental health interventions in pediatric oncology settings. Future research should also focus on multi-center comparative studies to assess differences in mental health outcomes across distinct healthcare models, ensuring that policy recommendations are grounded in robust empirical data rather than theoretical assumptions.

6. Discussion

The insights gained from the validated findings of the article, along with the experimental results, underscore the importance of advancing research on parental psychosocial support in pediatric oncology. As the field continues to evolve, there's a growing need to explore new dimensions, refine intervention strategies, and adapt support mechanisms to meet the diverse needs of parents facing the challenges of their child's cancer journey. The following discussion outlines alternative research approaches and strategic recommendations to enhance future studies in this critical area.

6.1. Alternative research approaches

While this study employs a qualitative synthesis of literature and clinical observations, various alternative research approaches could be applied in future studies to provide more empirical validation and comparative analysis. For example, randomized controlled trials (RCTs) could offer a higher level of causal inference, assessing the effectiveness of psychological interventions under controlled conditions. Additionally, longitudinal surveys could track changes in parental mental health over time, providing insights into the long-term impact of psychological support programs.

Despite discussing these alternative methods, this study does not apply them directly due to limitations in data availability and scope. However, integrating such methodologies in future research would enhance the scientific validity and generalizability of findings. Researchers should consider mixed-methods designs, combining quantitative survey data with in-depth qualitative interviews to capture both statistical trends and personal lived experiences. Furthermore, comparative studies across different healthcare systems could assess variations in mental health support structures, leading to more globally applicable recommendations.

Research design and justified methodology:

The psychological distress experienced by parents of children undergoing cancer treatment is a critical yet underexplored area in pediatric oncology. Despite increasing recognition of the emotional burden on caregivers, mental health support remains fragmented and inconsistently implemented. This study examines the most prevalent psychological stressors affecting parents, evaluates the effectiveness of psychological interventions, and identifies barriers to accessing mental health resources.

The study formulates specific research questions and hypotheses to assess the psychological challenges faced by parents and the effectiveness of structured interventions. A systematic literature review and clinical observations were conducted, examining mental health programs in pediatric oncology settings. The findings indicate that Cognitive Behavioral Therapy (CBT), peer support programs, and mindfulness-based interventions are among the most effective strategies for reducing parental distress. However, accessibility remains a challenge, with significant disparities in the availability of mental health support across healthcare institutions.

While the study discusses alternative methodologies, including randomized controlled trials (RCTs) and longitudinal studies, these were not applied due to limitations in data scope and feasibility. Future research should integrate empirical studies and comparative analyses to strengthen the evidence base for interdisciplinary mental health frameworks. Addressing these gaps through mixed-methods approaches would provide a more comprehensive and replicable model for psychological support in pediatric oncology, ensuring that both research and clinical applications align with the real-world needs of affected families.

6.1.1. Longitudinal research designs

Future studies should adopt longitudinal methodologies to capture the dynamic nature of parental psychological adaptation over time. Unlike cross-sectional studies that provide a snapshot of parental distress at specific moments, longitudinal research can track changes in mental health, coping mechanisms, and family resilience from diagnosis through treatment and into survivorship. This approach would provide a comprehensive understanding of the long-term effects of pediatric cancer on parental well-being and help identify critical intervention points.

6.1.2. Cross-cultural comparative studies

Since cultural factors significantly influence how parents perceive and cope with their child’s illness, comparative studies across different cultural and socio-economic contexts are essential. Research could focus on understanding how cultural beliefs, healthcare accessibility, and social support systems impact parental stress and adaptation. Such studies would aid in developing culturally sensitive interventions that are both effective and respectful of diverse family dynamics.

6.1.3. Experimental trials with diverse interventions

While existing programs like Bright IDEAS have shown positive outcomes, future research should experiment with diverse intervention models. This could include mindfulness-based stress reduction, cognitive-behavioral therapy tailored for parents, family-centered therapeutic approaches, and technology-driven support such as mobile applications for stress monitoring and virtual counseling. Randomized controlled trials (RCTs) comparing these interventions would help identify the most effective strategies for different parental profiles.

6.1.4. Mixed-methods research

Combining quantitative and qualitative research methods can provide a richer, more nuanced understanding of parental experiences. Quantitative data (e.g., anxiety and depression scales) can be complemented by qualitative insights from interviews or focus groups, offering a deeper exploration of parents’ emotional journeys, coping strategies, and unmet needs.

6.1.5. Biopsychosocial Investigations

Integrating biological markers of stress (e.g., cortisol levels, heart rate variability) with psychological assessments can offer a holistic view of parental distress. This approach would help elucidate the physiological impacts of chronic stress on parents and inform interventions aimed at both mental and physical health.

6.2. Recommendations for future research

Enhancing mental health support in pediatric oncology:

A truly integrated, multidisciplinary support system for parents of children with cancer must effectively coordinate medical, psychological, and social support services to ensure holistic care. To achieve this, the following framework is proposed:

1) Medical integration: Healthcare providers, including oncologists, nurses, and pediatricians, should receive specialized training in recognizing parental psychological distress and referring families to mental health services. Regular psychosocial screenings should be incorporated into routine pediatric oncology visits to identify high-risk parents early.
2) Psychological integration: Evidence-based interventions such as Cognitive Behavioral Therapy (CBT), mindfulness training, and resilience-building workshops should be offered at different stages of the child's treatment journey. These programs should be adapted based on parental needs, ensuring both individual and group therapy options.
3) Social support integration: Hospitals should collaborate with community organizations, online support networks, and patient advocacy groups to provide continuous emotional and practical support. Financial assistance programs, peer mentoring, and workplace mental health accommodation can reduce stressors related to caregiving burden, financial strain, and social isolation.

By implementing this model, parental mental health support can transition from a fragmented and reactive approach to a proactive and structured system that ensures consistent and accessible care for all families navigating pediatric cancer treatment.

6.2.1. Develop comprehensive, family-centered interventions

Future research should move beyond focusing solely on parents, considering the family as an interconnected system. Programs that address the needs of siblings, co-parents, and extended family members could provide a more holistic support structure, enhancing the overall resilience of the family unit.

6.2.2. Focus on high-risk groups

Not all parents experience the same level of distress. Research should identify high-risk populations, such as single parents, families with limited social support, or those with pre-existing mental health conditions. Targeted interventions tailored to these groups could be more effective in mitigating severe psychological outcomes.

6.2.3. Incorporate technology and digital health tools

The integration of digital health technologies into psychosocial support programs represents a promising avenue for future research. Mobile apps, telehealth services, and online support communities can increase accessibility, particularly for parents in rural or underserved areas. Studies should evaluate the effectiveness of these digital interventions compared to traditional in-person support.

6.2.4. Evaluate the long-term impact of support programs

Most existing studies assess the short-term benefits of psychosocial interventions. Future research should investigate the long-term impact on parental mental health, family functioning, and even the child's health outcomes. This would help determine whether early interventions have lasting effects and guide the development of follow-up support systems post-treatment. The hypothetical evaluation of the Bright IDEAS program presents a structured framework for assessing its potential benefits; however, future studies should validate these findings using empirical data. Implementing pilot studies in multiple pediatric oncology centers and collecting real-world outcome metrics—such as reductions in parental stress, anxiety, and depression—would provide stronger evidence for its effectiveness. Statistical analyses comparing pre- and post-intervention mental health outcomes among parents participating in Bright IDEAS programs would further reinforce the program's practical impact and guide future policy recommendations.

6.2.5. Promote interdisciplinary collaboration

Addressing the complex needs of parents requires collaboration across disciplines, including oncology, psychology, social work, and education. Future research should foster interdisciplinary partnerships to develop comprehensive care models that integrate medical and psychosocial support seamlessly.

6.2.6. Policy-oriented research for systemic change

Beyond clinical outcomes, future studies should focus on influencing healthcare policies. Research can provide evidence to advocate for the inclusion of parental psychosocial support as a standard component of pediatric oncology care, ensuring consistent funding, resources, and training for healthcare professionals. To ensure the practical implementation of the recommended interventions, it is essential to outline clear policy strategies that integrate parental psychological support as a fundamental component of pediatric oncology care. This includes defining structured intervention models, securing funding for long-term psychological services, and establishing standardized guidelines for healthcare institutions. Policymakers should collaborate with medical professionals, psychologists, and patient advocacy groups to develop comprehensive frameworks that facilitate real-world application of these support mechanisms. Furthermore, the implementation of national and international parental support programs should be backed by legislative measures to guarantee sustainability, accessibility, and effectiveness across diverse healthcare settings.

6.3. Future research directions: Key considerations

6.3.1. Personalization

Research should aim to personalize support based on individual parental needs, recognizing that a "one-size-fits-all" approach is often inadequate.

6.3.2. Sustainability

Studies should explore how to sustain support programs over time, ensuring continued access even after the child's treatment ends.

6.3.3. Global perspectives

There is a need for global research collaborations to address disparities in psychosocial care across different healthcare systems.

Advancing research on parental support in pediatric oncology is crucial for improving both parental well-being and child health outcomes. By embracing diverse methodologies, focusing on high-risk groups, and integrating technological innovations, future studies can pave the way for more effective, accessible, and culturally sensitive support systems. Ultimately, the goal is to create a healthcare environment where the psychological health of parents is treated with the same urgency and importance as the physical health of their children.

7. Conclusion and future works

The growing understanding of parental experiences and psychological adaptation in pediatric oncology highlights the urgent need for structured, long-term psychological support. Parents play a crucial role in their child’s treatment and recovery, yet their emotional and mental well-being often remains overlooked. The integration of continuous psychological follow-up within pediatric oncology care should be recognized as a fundamental component of treatment rather than an optional service. This necessity calls for interdisciplinary collaboration among healthcare professionals, psychologists, and researchers to ensure that parents receive the appropriate support throughout their child’s medical journey. Despite existing initiatives, the psychological care available to parents varies significantly across different healthcare systems, both nationally and internationally. This inconsistency underscores the need for a standardized approach to intervention strategies that incorporate early psychological screening, counseling, and long-term follow-up. Implementing structured protocols in pediatric oncology units could facilitate the early detection of distress and ensure timely psychological interventions. Additionally, developing personalized support pathways, such as psychoeducational programs and digital health solutions, would allow parents to access mental health support at different stages of their child’s treatment. To enhance parental psychological care, it is essential to establish a dedicated research task force that focuses on refining support mechanisms in pediatric oncology. This initiative should prioritize the development of international guidelines to standardize psychological interventions, ensuring uniform access to structured problem-solving therapies like the Bright IDEAS model. Further, healthcare professionals should receive specialized training to identify and address parental distress effectively. Incorporating digital health technologies—such as mobile applications for real-time support—could significantly improve the accessibility of mental health services, especially in regions where psychological care remains limited. A comprehensive pediatric oncology model must not only focus on improving survival rates but also on enhancing the overall well-being of families affected by childhood cancer. This requires a collective commitment to holistic care, where psychological support is seamlessly integrated into medical treatment plans. By fostering interdisciplinary collaboration, implementing structured interventions, and advocating for research-driven policies, healthcare systems can provide sustainable and inclusive care for both children and their caregivers. Moving forward, the goal is to ensure that no parent faces the emotional and psychological burden of childhood cancer alone—a call for action that must be met with strategic, well-coordinated efforts in pediatric oncology. While this study provides an in-depth synthesis of existing research, its reliance on secondary literature presents a limitation in terms of empirical validation. Future research should incorporate direct qualitative interviews with parents to capture firsthand experiences, emotional coping mechanisms, and perceived gaps in psychological support. Additionally, longitudinal studies tracking parental psychological distress over extended treatment periods could offer valuable insights into the evolving nature of mental health challenges and the long-term efficacy of interventions. These empirical approaches would not only enhance the robustness of findings but also provide a more nuanced understanding of parental resilience and adaptation within different healthcare systems.

While this study presents a structured synthesis of literature and analysis, its format diverges from the standard IMRAD (Introduction, Methods, Results, and Discussion) structure typically employed in medical and psychological sciences. The integration of discussions throughout the text enhances contextual understanding but may reduce the clarity of explicitly stated results. Future iterations of this research could benefit from a clearer delineation of findings, ensuring that key results are more easily distinguishable from interpretative discussions. Adopting a more structured results section would enhance the accessibility of the study’s contributions for researchers, clinicians, and policymakers.

The psychological burden of parents of children with cancer is well-documented, yet existing mental health support remains fragmented and inconsistently implemented. While many studies emphasize the need for integrated, multidisciplinary mental health support, few provide clear frameworks for implementation and evaluation. This study proposes a structured integration model, detailing how medical, psychological, and social support services can be effectively coordinated to enhance parental well-being.

To integrate mental health support into pediatric oncology, a three-tiered approach is recommended. Medical professionals should receive training to identify and address parental psychological distress early, incorporating routine psychosocial screenings into standard pediatric oncology care. Psychological interventions, including CBT, mindfulness training, and peer support programs, should be embedded at key stages of the child’s treatment process, ensuring that parents receive timely and evidence-based support. Social support systems, including community resources, financial assistance, and advocacy groups, should work in tandem with healthcare institutions to provide comprehensive emotional and practical support.

Evaluating the effectiveness of psychological support programs is essential to ensuring long-term benefits and continuous improvement. This study proposes a standardized evaluation framework that combines pre- and post-intervention psychological assessments, longitudinal follow-ups, and qualitative feedback mechanisms. By employing validated tools such as the Hospital Anxiety and Depression Scale (HADS) and the Parenting Stress Index (PSI), healthcare institutions can assess the mental health outcomes of participating parents, ensuring that interventions are effective, personalized, and adaptable to different family needs.

This research highlights the urgent need for structured, evidence-based integration of mental health services in pediatric oncology. By bridging the gap between medical care, psychological support, and social assistance, a comprehensive, patient-centered approach can be developed to ensure that parents receive consistent and high-quality mental health care throughout their child's cancer treatment. Future research should focus on large-scale clinical studies to further refine intervention strategies and develop policy-driven solutions that enhance the accessibility and sustainability of parental mental health support in pediatric oncology settings.

Funding: This research was funded by the Deanship of Scientific Research of Taif University, grant number 83/Deanship-of-Scientific-Research and the APC was funded by the Deanship of Scientific Research of Taif University (DSRTU) (www.tu.edu.sa/En/Deanships/83/Deanship-of-Scientific-Research.

Acknowledgments: The author would like to acknowledge the Taif University Department of Scientific Research in the Kingdom of Saudi Arabia for assistance and motivation to accomplish the research work.

Conflict of interest: The author declares no conflict of interest.

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