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Determinant factors of psychological well-being and parental resilience in parents of children with cancer: A systematic review

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Abstract

Background: Childhood cancer remains a major global health concern, significantly impacting parents psychological well-being. A child's cancer diagnosis often triggers emotional distress, anxiety, and long-term uncertainty for the family.

Purpose: To identify the determinant factors of psychological well-being and parental resilience among parents of children with cancer.

Method: Observational studies evaluating psychological well-being and resilience in parents of children with cancer were systematically searched in the databases PubMed, ScienceDirect, EBSCOhost, Sage Journals, and Scopus. Data were extracted independently by two reviewers. We included seven studies involving a total of 892 parents from various countries who have children with cancer.

Results: Protective factors that were found to significantly enhance resilience and psychological well-being include spiritual well-being, social support, self-efficacy, and coping strategies. Conversely, psychological factors such as trauma, depression, anxiety, and general health status were significantly negatively correlated with both psychological well-being and resilience ($p < 0.05$).

Conclusion: The reviewed studies consistently demonstrate that parental resilience and well-being are strongly influenced by spiritual well-being, social support, self-efficacy, and coping strategies. Negative psychological variables such as depression, anxiety, and trauma significantly contribute to the decline in psychological well-being and resilience.

Keywords: Children With Cancer; Psychological Well Being; Resilience of Parent.

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INTRODUCTION

Childhood cancer remains a major global health crisis and a growing concern for both developed and developing nations. In 2022, more than 275,000 children and adolescents (aged 0–19 years) worldwide were diagnosed with cancer, and over 105,000 of them died from the disease (Gudmundsdottir, Schirren, & Boman, 2021). Indonesia recorded approximately 11,156 new pediatric cancer cases, with leukemia being the most prevalent type (3,880 cases; 34.8%), followed by lymphoma and brain tumors, each accounting for around 640 cases (5.7%) (Ferlay, Ervik, Lam, Colombet, Mery, Piñeros, & Bray, 2020). Despite medical advancements, less than 30% of childhood cancer cases in Indonesia are considered curable, as reported by the World Health Organization (WHO) based on 6,623 diagnosed cases between 2020 and 2024 (World Health Organization, 2024). Globally, around 400,000 children are diagnosed with cancer every year (Steliarova-Foucher, Colombet, Ries, Moreno, Dolya, Bray, & Tretarre, 2017). This diagnosis not only signifies a life-threatening condition for the child but also represents a profound psychosocial crisis for the entire family. Parents of children with cancer experience intense emotional turmoil, uncertainty, and psychological distress, which may persist throughout and beyond the treatment process. Studies indicate that 40–50% of parents exhibit symptoms of anxiety, depression, or post-traumatic stress disorder (PTSD) during their child's illness trajectory (Kazak, Hwang, Chen, Askins, Carlson, Argueta-Ortiz, & Barakat, 2018).

The psychological well-being of parents caring for a child with cancer is a multifaceted construct, encompassing emotional stability, cognitive functioning, social connectedness, and existential meaning. Empirical evidence shows that parental psychological well-being directly influences the child's adjustment to illness, treatment adherence, and overall health outcomes (Salvador, Crespo, & Barros, 2019). Parents with higher levels of psychological resilience are more capable of navigating complex caregiving demands, making informed medical decisions, and sustaining emotional support for their families. Parental resilience defined as a dynamic process of positive adaptation despite adversity plays a pivotal role in determining how families cope with

pediatric cancer (Prates, Correa-Júnior, Russo, Paraizo-Horvath, Teles, & Sonobe, 2024). Rather than merely enduring distress, many parents transform their traumatic experiences into sources of personal and familial growth, allowing them to maintain hope and provide stable support throughout treatment. Resilience encompasses emotional regulation, spirituality, and social connectedness as interrelated domains of coping (Frere, Font, Esposito, Crichi, Girard, & Janus, 2022). Parents often strengthen their resilience through social support networks, faith-based coping, and meaning-making processes, which help them reinterpret adversity in constructive ways.

Research highlights that family-centered and strength-based interventions significantly enhance parental resilience (Boll, 2023). Determinants such as marital relationship quality, access to psychological support, and the ability to reconstruct traumatic experiences influence how parents adapt to the challenges of childhood cancer. Resilience, therefore, should be conceptualized not as a static trait but as a continuum of growth and adaptation influenced by social, cultural, and clinical contexts. The healthcare environment also serves as a vital determinant of parental well-being. Effective communication from healthcare providers, integrated psychosocial care, and a family-centered approach have been shown to alleviate parental stress and promote resilience (Seibel, Chi, Perlman, Tian, Sun, Anderson, & Green, 2019). In addition, peer support from parents who have experienced similar challenges provides unique emotional validation and practical insights that complement professional support (Elzembely, Abdelrahman, Fadel, & Hafez, 2020). Given these multidimensional determinants, understanding parental psychological well-being and resilience in the context of childhood cancer is essential for developing targeted, culturally relevant interventions. A holistic psychosocial support system that integrates emotional, social, economic, and cultural dimensions can enhance caregivers' quality of life and indirectly improve treatment outcomes for pediatric cancer patients (Stafford, Sinclair, Rauch, Turner, Mann, Newman, & Schofield, 2021). Therefore, this study aims to explore the multidimensional determinants of parental psychological well-being and resilience

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among parents of children with cancer in Indonesia, thereby contributing to the advancement of psychosocial care models in pediatric oncology.

RESEARCH METHOD

A comprehensive and systematic literature search was conducted to identify relevant studies examining the psychological well-being and resilience of parents of children with cancer. The search was performed across major electronic databases, including PubMed, ScienceDirect, Scopus, SAGE Journals, and EBSCOhost, covering all available studies from the databases' inception through January 2025. The PEOS framework (Population, Exposure, Outcome, and Study design) was used to guide the search process. The following keywords and Boolean operators were applied: ("psychological well-being" OR "mental health") AND ("resilience of parent" OR "parental resilience") AND ("children with cancer" OR "pediatric cancer"). To ensure comprehensive coverage, search terms were adapted to the indexing terms of each database. The search strategy was restricted to peer-reviewed journal articles published in English. Inclusion criteria were studies employing quantitative research designs, specifically cross-sectional, cohort, or case-control studies, that reported measurable outcomes related to parental psychological well-being or resilience. Studies focusing on qualitative designs, reviews, conference abstracts, or editorials were excluded. Additionally, the reference lists of all eligible articles were manually screened to identify further relevant studies not captured by the electronic search. Duplicate articles were removed, and titles and abstracts were screened independently by two reviewers to ensure methodological rigor and reduce selection bias.

The inclusion criteria in the search for this article were parents or primary caregivers of children (0-18 years) diagnosed with any type of cancer, articles found, publications above 2014 in English, full text.

While the exclusion criteria were parents/caregivers with pre existing severe psychiatric disorders that could significantly affect the assessment results and parents/caregivers whose children were in the terminal phase of the disease (to avoid additional burden). Two investigators (independently searched the electronic databases and screened and reviewed the qualified publications. The third investigator helped to resolve any discrepancies through discussion. Two reviewers independently extracted data and evaluated the included studies. Any disagreements were resolved through discussion. The following data were extracted: the first author's name; publication year; study location (country); aim; sample demographics; method; and result. Then the articles were selected by reading the entire contents and in the final stage an assessment of the quality of the article was carried out or a critical appraisal was carried out using the JBI (The Joanna Briggs Institute) formular. Each item was scored as "yes," "no," "unclear," or "not applicable."

Articles identified from five electronic databases totaled 4,253 articles. Furthermore, articles were re-screened based on inclusion criteria including year of publication 2015-2025, type of article (research article, English language, nursing, people and full text) and exclusion criteria (non-open access article and qualitative research), so that 233 articles were obtained. Then the full text articles obtained were selected by reading the title and abstract. After reading the whole thing, 4 articles were obtained that were in accordance with the researcher's wishes, while with other methods 3 articles were obtained that could also be included so that the total number obtained was 7 articles. The selected articles were subjected to data extraction using the author's name, year of publication, country name, aim, samples, methods, and outcome. This literature review consists of 7 quantitative articles with the results of quantitative research.

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RESEARCH RESULTS

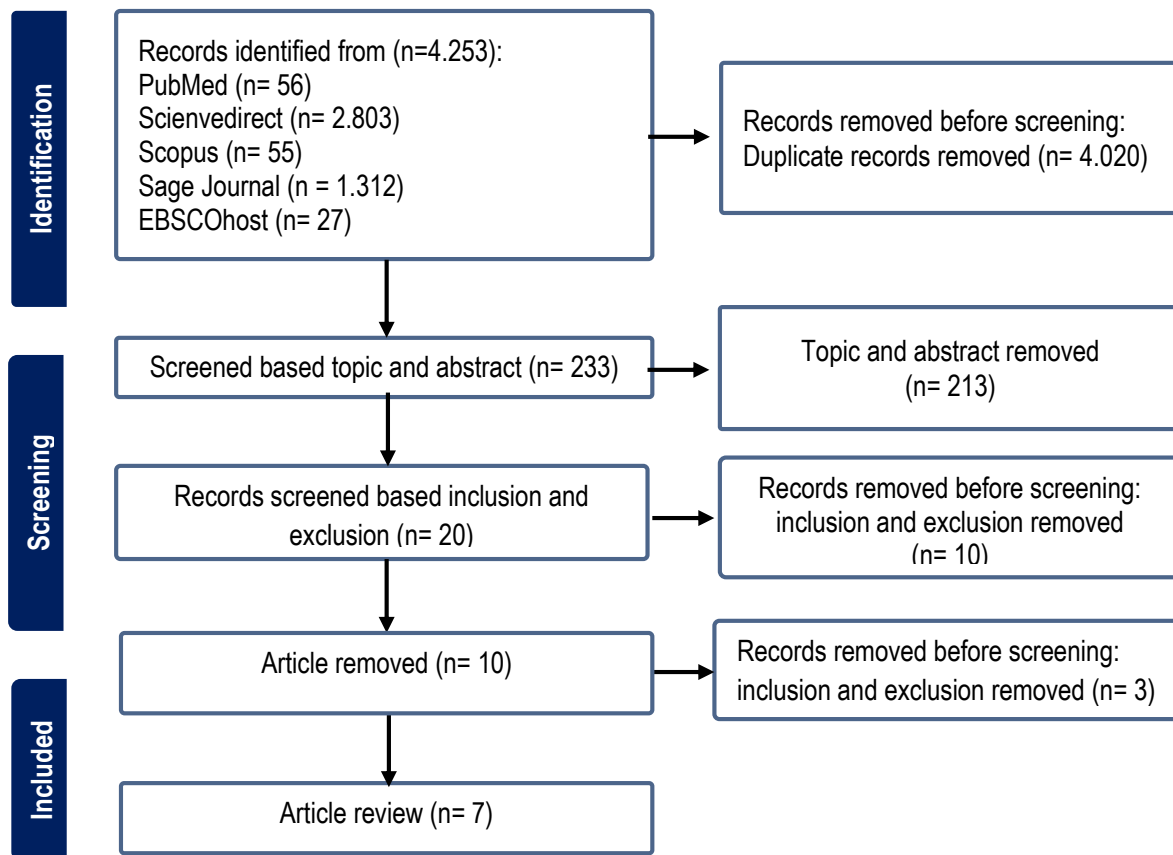


Figure Prisma Flow Diagram

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Table Article Review

(Author, Year) (Country)	Purpose	Method	Results
(Ferraz et al., 2025) (Portugal)	To investigate how family functioning, family resilience, and coping strategies mediate the connection between psychological distress, traumatic stress symptoms, and psychological health.	A longitudinal study	1. Psychological Well-Being: Psychological Morbidity ($\beta = -0.08, p < 0.001$); 95% CI [-0.12, -0.04]; Traumatic Stress Symptoms ($\beta = -0.19, p = 0.010$); 95% CI [-0.34, -0.04] Family Resilience ($\beta = -0.03, p < 0.001$; 95% CI [-0.05, -0.01] 2. Resilience: Traumatic Stress ($\beta = -2.24, p < 0.05$) Parental coping ($\beta = 7.92, p < 0.001$)
(Eilertsen et al., 2016) (Norway)	To compare resilience factors among mothers and fathers of children surviving acute lymphoblastic leukemia to parents of healthy children.	A cross-sectional comparative design	Significant resilience factors influencing psychological well-being: Perception of Self ($B = -0.57; p < 0.01$) 95% CI [-0.85, -0.29]) Planned Future ($B = -0.67; p < 0.01$) 95% CI [-0.98, -0.36]) Family Cohesion ($B = -0.55; p < 0.001$) 95% CI (-0.84, -0.26)
(Koyu et al., 2024) (Turkey)	To examine the effects of psychological resilience, spiritual well-being, and some child- and parent-related factors on parents' experience of hope while their child is undergoing cancer treatment."	Cross-sectional and correlational design	Resilience: Spiritual Well-Being ($\beta = 0.40, p < 0.001$) 95% CI (0.10, 0.24) type of cancer (tumor solid) ($\beta = -2.4; p < 0.003$) 95% CI (-4.78, -1.02)
(Gebara et al., 2019) (United States)	To assess whether personal factors (resilience, demographic characteristics) and/or child contextual factors (type of cancer, demographic characteristics) are associated with parents' level of well-being.	Descriptive cross-sectional study	Associated Resilience with psychological well-being: Self-transcendence ($r = 0.57; p < 0.000$) 95% CI [0.388, 0.752] Depression ($r = -0.60; p < 0.000$) 95% CI [-0.778, -0.422] Anxiety ($r = -0.53; p < 0.000$) 95% CI -0.718, -0.342]

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(Author, Year) (Country)	Purpose	Method	Results
(Chung et al., 2023) (China)	To examine the interrelationships among resilience, coping strategies, psychological well-being (depression and anxiety), and quality of life among Chinese parents of children with cancer, and to identify factors associated with their quality of life.	Cross-sectional study	Resilience: Quality of live ($r = 0.60$; $p < 0,01$) 95% CI [0.455, 0.745] Coping Strategy ($r = 0.53$; $p < 0,01$) 95% CI [0.376, 0.684] Depression ($r = -0.57$; $p < 0,01$) 95% CI [-0.719, -0.421]
(Mohammadsalehi et al., 2022) (Iran)	To evaluate resilience in parents of children with cancer and its relationship with: social support, self-efficacy, and general health.	Analytic cross-sectional study Instruments	Resilience: Social support ($\beta = 0.723$, $p = 0.045$) 95% CI [0.016, 1.430] Self-efficacy ($\beta = 0.356$, $p = 0.005$) 95% CI [0.107, 0.605] General Health ($\beta = -0.351$, $p = 0.025$) 95% CI [-0.658, -0.044]
(Habibpour et al., 2019) (Iran)	To assessing the level of resilience and its predictors in parents of children with cancer	Cross-sectional descriptive-analytical	Resilience: Financial status ($\beta = -0.234$; $t = -4.731$; $p < 0.001$) Gender of parents ($\beta = -0.139$; $t = -2.925$; $p = 0.004$) Father's employment status ($\beta = -0.126$; $t = -2.533$; $p = 0.012$)

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DISCUSSION

The psychological well-being of parents with children diagnosed with cancer is influenced by a range of both negative and positive factors. Significant negative predictors include traumatic stress symptoms ($\beta = -0.19$, $p = 0.001$), which reflect the emotional toll of the diagnosis and treatment process. In addition, general psychological morbidity ($\beta = -0.08$, $p < 0.001$) and even family resilience ($\beta = -0.03$, $p < 0.01$) were negatively associated with individual psychological well-being, possibly indicating that focusing on family resilience may come at the expense of individual psychological needs. Other negative correlations were found with depression ($r = -0.60$), anxiety ($r = -0.53$), concerns about the future ($B = -0.67$), and family cohesion difficulties ($B = -0.55$), all of which negatively impact parental psychological stability. On the other hand, there are also protective factors that enhance psychological well-being. One of these is positive self-perception ($B = 0.57$, $p < 0.01$), indicating that parents who maintain a positive view of themselves are better equipped to manage emotional stress. Additionally, self-transcendence the ability to move beyond personal concerns and find meaning in adversity also plays an important role in improving psychological well-being ($r = 0.57$, $p < 0.000$). These findings highlight the need for approaches that not only address psychological distress but also strengthen parents' internal resources through emotional support, self-reflection, and holistic psychosocial interventions (Bajjani-Gebara, Hinds, Insel, Reed, Moore, & Badger, 2019).

Parental resilience in the context of childhood cancer care is significantly influenced by a number of strong protective factors. The most prominent of these is spiritual well-being ($\beta = 0.40$, $p < 0.001$), indicating that spiritual beliefs and practices help parents cope emotionally and maintain hope. In addition, social support ($\beta = 0.723$, $p = 0.045$) plays a critical role in strengthening resilience, especially when parents have access to supportive networks. Self-efficacy ($\beta = 0.356$, $p = 0.005$) or the belief in one's ability to handle challenges also positively contributes to resilience. A better quality of life ($r = 0.60$, $p < 0.01$) and effective coping strategies ($r = 0.53$, $p < 0.01$) are further indicators of stronger psychological resilience among parents. Conversely, several factors were

found to significantly reduce resilience levels. For example, parents of children with solid tumors had lower resilience scores ($\beta = -2.4$, $p = 0.003$), and having a male child was also associated with reduced resilience ($\beta = -0.16$ and $\beta = -0.118$). Socio-demographic factors such as poor financial conditions ($\beta = -0.234$), paternal unemployment ($\beta = -0.126$), parental gender ($\beta = -0.139$), and having more children ($\beta = -0.16$) were all negatively associated with resilience. Psychological factors, including depression ($r = -0.60$ and -0.57), anxiety ($r = -0.53$), and poor general health ($\beta = -0.351$), also consistently contributed to lower resilience. These findings emphasize the need for comprehensive interventions that not only address emotional factors but also enhance spiritual, social, and economic supports to build stronger resilience among parents facing the challenges of childhood cancer (Eilertsen, Hjemdal, Diseth, & Reinfjell, 2016).

This review acknowledges the potential presence of publication bias, as the majority of included studies reported statistically significant findings related to psychological well-being and resilience. Given that studies with negative or non-significant outcomes are less likely to be published or indexed in major databases, it is possible that relevant but unpublished data were not captured. Although a broad search was conducted across five major databases (PubMed, Scopus, ScienceDirect, EBSCOhost, and Sage Journals), and inclusion criteria were clearly defined. The study designs consisted of five cross-sectional studies, one longitudinal study, and one comparative study. All studies examined parents or primary caregivers of children diagnosed with various types of cancer, with children's ages ranging from 0-18 years. The evidenced by the use of diverse and validated instruments tailored to assess resilience, psychological well-being, and associated psychosocial factors among parents of children with cancer. Most studies clearly defined inclusion and exclusion criteria, used standardized tools such as the Connor-Davidson Resilience Scale, Hospital Anxiety and Depression Scale, General Health Questionnaire, and reported statistically significant findings with relevant confidence intervals and p-values. However, the reliance on self-reported data and the predominance of cross-sectional designs may limit

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causal interpretations. Despite this, the consistent methodological rigor across studies strengthens the validity of the overall (Ferraz, Faria, Jerónimo, & Pereira, 2025).

The results of this systematic review indicate that resilience factors play a significant role in determining the psychological well-being of parents caring for children with cancer. Several studies, such as those by Ferraz et al. and Gebara et al., emphasized that psychological issues such as psychological morbidity, traumatic stress, and anxiety negatively correlate with well-being, while protective factors like family resilience and coping strategies contribute positively to mental health. These findings suggest that resilience is not only an individual trait but also a dynamic element within the family and social context. Social support and spirituality also emerged as critical aspects in several studies (Koyu, Algül, Altay, & Kilicarslan, 2024). Social support was found to be a strong determinant of resilience, while spiritual well-being had a positive correlation with hope among parents during their child's cancer treatment. This reflects that psychosocial and spiritual approaches should be integrated into family-centered care to enhance parents' emotional endurance. Demographic factors such as the father's employment status, financial condition, number of children, and the child's gender also influenced parental resilience. Poor financial status and unemployment among fathers significantly lowered resilience (Habibpour, Mahmoudi, Nir, & Areshtanab, 2019). This reveals a link between economic burden and psychological vulnerability within families of pediatric cancer patients, suggesting that support interventions should address both psychological and socio-economic needs (Mohammadsalehi, Asgarian, Ghasemi, & Mohammadbeigi, 2022).

Interestingly, aspects such as self-perception and planned future were also found to be important indicators in improving psychological well-being. Eilertsen et al. discovered that a positive perception of self and family cohesion contributed to enhanced quality of life and reduced anxiety and depression. On a global scale, the differences across countries in the reviewed studies reflect variations in healthcare systems and cultural contexts that may influence parents' coping capacities. Overall, the findings of this review reinforce the importance of a multidimensional

approach in addressing the psychological conditions of parents with children undergoing cancer treatment. Resilience, spirituality, social support, and demographic characteristics are interconnected determinants that must be addressed in family nursing practice and health policy. Therefore, comprehensive and context-sensitive interventions are needed to strengthen parental psychological resilience and support the child's holistic recovery process. The search results demonstrate strong consistency between the systematic review findings and recent studies from various countries. A multisite study in China involving 270 advanced cancer patient-caregiver dyads and multiple regression analysis confirmed that family resilience and individual resilience ($p < 0.001$) were significantly associated with quality of life among parents of children with cancer (Li, Liu, Chen, Tan, Zhang, Tuo, & Zhu, 2020). These findings strengthen the external validity of the systematic review results showing that resilience is not only an individual trait but also a dynamic element within family and social contexts, with consistent patterns across different cultures and healthcare systems.

Recent research confirms the importance of psychosocial and spiritual dimensions in parental resilience. Social support has been proven to play a protective role in facing stress and helping children and adolescents cope with demands during their cancer journey, while social support and spiritual coping serve as mediators between hope and depression (Marshall, 2025). These findings align with the systematic review results showing social support as a strong determinant of resilience and spirituality having a positive correlation with parental hope, reinforcing the argument that psychosocial and spiritual approaches should be integrated into family-centered care. Recent empirical evidence supports the systematic review recommendations regarding the need for multidimensional interventions. Support networks, parental education level, and income have been proven fundamental in reducing the impact and effects of care on family caregivers of children with cancer, while intervention strategies focusing on reducing parental depression and strengthening family communication skills are needed to promote family adaptation to pediatric cancer (Chung, Li, Ho, & Cheung, 2023). A strengths-oriented approach

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helps in understanding parental adjustment to childhood cancer by identifying resilience factors rather than pathology (Zanfardino, Mazziotto, & Bodas, 2022). This reinforces the argument that comprehensive and context-sensitive interventions addressing both psychological and socio-economic needs simultaneously are essential in family nursing practice and health policy formulation.

CONCLUSION

This systematic review highlights the significant role of psychological resilience in shaping the well-being of parents caring for children with cancer. Across various studies, resilience was consistently associated with reduced levels of psychological morbidity, stress, depression, and anxiety. Factors such as family cohesion, self-perception, spiritual well-being, and social support emerged as important protective variables that enhance parental coping abilities in the face of a child's life-threatening illness. Demographic and contextual factors including financial status, employment, influenced the level of resilience, suggesting the need for a holistic and socio-culturally sensitive approach in supporting these parents. The diversity of measurement tools and cross-national findings further affirm that resilience is a multidimensional construct influenced by individual, familial, and systemic components. Fostering resilience among parents of children with cancer can serve as a critical pathway to improving their mental health, sustaining caregiving abilities, and ultimately supporting better health outcomes for the child. Future research should continue to explore culturally adaptable interventions and long-term impacts of resilience-focused programs in diverse healthcare settings.

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