



Association between Psychological Aspects and Coping Strategies among Mothers of Children with Cancer

Hind Tasjeel Abass Al-fatlawy ¹, Salma. K. Jihad ².

¹ Family and Community Nursing department, Babylon Health Directorate, Ministry of Health, Iraq.

² Community Nursing department, College of Nursing, University of Babylon, Iraq.

ABSTRACT

CORRESPONDING AUTHOR: Hind T. A. Al-fatlawy, Family and Community Nursing department, Babylon Health Directorate, Ministry of Health, Iraq. Email: hindalfatlawy@gmail.com

Background: Providing care for a child diagnosed with cancer presents significant emotional and psychological difficulties for parents, especially mothers.

Objectives: The study investigates association between psychological aspects and coping strategies among mothers of children with cancer.

Methodology: A Correlational study was undertaken at the Middle Euphrates Cancer Center in Al-Najaf Al Ashraf Governorate from July 31th, 2022, to September 28th, 2023. The questionnaire's validity was ensured through expert consultation, and its reliability was established through a preliminary pilot study. Data were collected by structured interviews using the questionnaire and subjected to thorough analysis employing both descriptive and inferential statistical methods.

Results: The findings of this study show that a significant percentage (54.9%) of mothers with children diagnosed with cancer are experiencing significant psychological distress. Moreover, a substantial number (58.8%) of these mothers are using coping strategies that are not very effective. The study also reveals a strong, negative correlation between the psychological well-being of these mothers and their coping strategies, particularly in areas such as family integration ($r = -.445$; $p < 0.01$), social support ($r = -.353$; $p < 0.01$), communication with healthcare professionals ($r = -.522$; $p < 0.01$), and overall coping ($r = -.624$; $p < 0.01$).

Conclusion: The study highlights the alarming prevalence of psychological distress among mothers with children diagnosed with cancer and underscores the ineffectiveness of many coping strategies employed by these mothers. It is recommended that healthcare professionals and support organizations prioritize the provision of tailored psychological support and social support networks to alleviate the psychological burden faced by these mothers.

Keywords: Psychological Aspects, Coping Strategies, Mothers, Children with Cancer.

INTRODUCTION

Each year, an estimated 300,000 children aged 0-19 years are diagnosed with cancer worldwide ⁽¹⁾. Leukemia is the most common cancer type among children, accounting for approximately one-third of all cases ⁽²⁾. The survival rates for childhood cancer have improved significantly over the past few decades, with many high-income countries reporting 5-year survival

rates of over 80% ⁽³⁾. However, these rates can vary substantially between countries due to differences in healthcare access and resources ⁽²³⁾. While high-income countries generally have better childhood cancer survival rates, low- and middle-income countries face challenges in providing adequate

diagnosis and treatment ⁽²⁴⁾. This has led to lower survival rates in many parts of the world ⁽⁴⁾.

Childhood cancer is a distressing and emotionally challenging experience for both the affected child and their family ⁽²⁵⁾. Parents, particularly mothers, are often at the forefront of providing physical and emotional support to their children during cancer treatment and the psychological toll of having a child diagnosed with cancer can be immense, leading to various emotional and psychological challenges for mothers ⁽²⁶⁾. In response to these challenges, mothers develop coping strategies to navigate the complex and often overwhelming situation ⁽⁵⁾. Research has shown that there is a significant association between the psychological aspects experienced by mothers of children with cancer and the coping strategies they employ ⁽⁶⁾. This relationship has been explored in various studies, shedding light on the intricate interplay between psychological well-being and coping mechanisms in this specific population ⁽⁷⁾. The diagnosis of cancer in a child can trigger intense emotional reactions, such as fear, grief, and helplessness, which can, in turn, impact their mental health ⁽²⁷⁾. It is reported that the mothers of children with cancer reported elevated levels of distress, including symptoms of post-traumatic stress, anxiety, and depression ⁽⁸⁾.

In response to these psychological challenges, mothers develop coping strategies to manage their emotions and navigate the demands of caring for a child with cancer ⁽⁹⁾. Coping strategies can encompass a range of approaches, from seeking emotional support from friends and family to engaging in problem-solving techniques ⁽¹⁰⁾. Mothers of children with cancer frequently employ coping strategies such as seeking social support, seeking information about their child's illness, and engaging in positive reframing to cope with the stressors associated with their child's illness ⁽¹¹⁾. In the present study understanding the association between psychological aspects and coping strategies among mothers of children with

cancer is crucial for several reasons firstly, it can inform healthcare professionals and counselors working with these families about the specific needs and challenges faced by mothers in additionally, it can guide the development of targeted interventions and support services aimed at improving the mental health and well-being of mothers in this vulnerable population. In this article, we will explore the association between psychological aspects and the coping strategies employed by mothers of children with cancer.

AIMS OF THE STUDY

The study investigates association between psychological aspects and coping strategies among mothers of children with cancer.

METHODOLOGY

Study Design:

This descriptive correlational study was conducted at the Middle Euphrates Cancer Center in Al-Najaf Al Ashraf Governorate between July 31th, 2022, to September 28th, 2023.

Study Sample:

A non-probability sampling approach was employed, resulting in a total sample size of 102 mothers with cancer child's who attended the Middle Euphrates Cancer Center.

Study Instrument:

Patient Characteristics: This section collected information on mothers age, social status, education level, occupation, monthly income, family type, residents and number of children.

Psychological Aspects: After a thorough review of psychological literature and previous research, we decided to adopt and adapt the General Health Questionnaire (GHQ-28) to assess various dimensions of psychological well-being ⁽¹²⁾. The present study questionnaire demonstrated high reliability, with a Cronbach's Alpha coefficient of 0.83.

Coping Strategies: the development of a modified scale based on a review of existing literature and

prior research. The modified scale is called the Coping Health Inventory for Parents (CHIP Scale). The present study questionnaire demonstrated high reliability, with a Cronbach's Alpha coefficient of 0.91.

Data Collection:

The researcher conducted individual interviews with participants, providing clear instructions and addressing any questions or concerns. Participants were encouraged to participate and thanked for their cooperation. Each interview lasted approximately 20-25 minutes, following a structured approach tailored to the study design.

Statistical Analysis:

IBM SPSS 20.0 was employed for data analysis. Categorical variables were summarized using numbers and percentages, while continuous

variables were described using mean and standard deviation. The Shapiro-Wilk test was used to assess data normality. To investigate the correlation between study variables, Person's correlation was employed. Statistical significance was defined as a two-tailed p-value of less than 0.05.

Ethical Approval

The study was conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki. It was carried out with patients verbal and analytical approval before sample was taken. The study protocol and the subject information and consent form were reviewed and approved by a local ethics committee according to the document number 511 (June 11th, 2023) to get this approval.

RESULTS

Table (1): Distribution of Studied Sample related to their Socio-demographic Data

Socio-demographic data	Classification	n	%
Age/years	Min.- Max.= 25-47 years Mean± SD= 37.24 ± 5.53		
Marital status	Married	89	87.3
	Divorced	8	7.8
	Widowed	1	1.0
	Separated	4	3.9
Education level	Primary school	30	29.4
	Middle school	25	24.5
	Secondary school	19	18.6
	Institute	23	22.5
Occupation	College and above	5	4.9
	Employee	24	23.5
	Self-employ	22	21.6
Monthly income	Housewife	56	54.9
	Enough	10	9.8
	Some limit enough	40	39.2
Family type	Mot enough	52	51.0
	Nuclear	57	55.9
Residents	Extended	45	44.1
	Urban	56	54.9
Number of children	Rural	46	45.1
	1 child	18	17.6
	2 children	24	23.5
	>2 children	60	58.8

n. Number; %= Percentage

Table (1) summarizes socio-demographic characteristics of mothers caring for children with cancer. There were 102 participants in the study, with ages ranging from 25 to 47 years and an average age of 37.24 ± 5.53 . Most mothers (87.3%) were married and living with their husbands. About 29.4% had only completed primary school education. A majority (54.9%) identified as housewives, and 51.0% reported inadequate monthly income. Family types were primarily nuclear (55.9%) versus extended (44.1%), and urban residents accounted for 54.9%, while rural residents made up 45.1%. Additionally, 58.8% of the mothers had more than two children.

Table (2): Overall Psychological Aspects among Mothers of Cancer Children

Psychological Aspects	Min.	Max.	M	SD	Score	n	%
Overall Psychological Aspects (28 Q)	34	79	66.26	13.64	Low (28-46.66)	9	8.8
					Moderate (46.67-65.33)	37	36.3
					High (65.34-84)	56	54.9
					Total	102	100.0
Overall Coping Strategies (41 Q)	48	115	67.58	19.38	Low (41-68.33)	60	58.8
					Moderate (68.34-95.66)	30	29.4
					High (95.67-123)	12	11.8
					Total	102	100.0

Table (2) reveals that 54.9% of mothers reported encountering significant psychological distress, as reflected by their average scores indicating noteworthy psychological challenges (66.26 ± 13.64). Additionally, a substantial 58.8% of mothers with children facing cancer reported utilizing coping strategies that exhibited relatively lower levels of effectiveness, as evidenced by their average scores (67.58 ± 19.38).

Table (3): Association between Psychological Aspects and Coping Strategies among Mothers of Cancer Child's

Correlations	1	2	3	4	5
1. Psychological Aspect	1	-.445**	-.353**	-.522**	-.624**
2. Family Integration Coping		1	.393**	.577**	.773**
3. Social Support Coping			1	.583**	.689**
4. Communication Coping				1	.747**
5. Overall Coping Strategies					1

** . Correlation is significant at the 0.01 level (2-tailed).

The findings clearly reveal a statistically significant (inverse) correlation between the psychological well-being of mothers with children diagnosed with cancer and their coping strategies, particularly in relation to family integration ($r = -.445$; $p < 0.01$), social support ($r = -.353$; $p < 0.01$), communication with healthcare professionals ($r = -.522$; $p < 0.01$), and overall coping ($r = -.624$; $p < 0.01$).

DISCUSSION:

The association between psychological aspects and coping strategies among mothers of children with cancer is a topic of significant research and clinical interest in the field of pediatric oncology and psychology (28). This area of study explores the emotional and mental challenges faced by mothers

who have children diagnosed with cancer and how they employ various coping mechanisms to navigate this difficult situation.

Findings indicate that the 54.9% of mothers caring for children with cancer reported experiencing high levels of psychological distress with an average score of 66.26 ± 13.64 , highlight a significant issue

within the realm of pediatric oncology. Caring for a child with cancer is an emotionally and mentally challenging experience for parents, particularly mothers (33). The current study reveal high levels of psychological distress observed in mothers of children with cancer are consistent with previous research. A study conducted by Ferrari et al., found that parents of children with cancer frequently experience symptoms of anxiety, depression, and post-traumatic stress (13). The constant uncertainty, fear of their child's prognosis, and the demanding caregiving responsibilities contribute to this distress and the psychological distress experienced by mothers of children with cancer can have far-reaching consequences (29). It can lead to symptoms of depression, anxiety disorders, and even post-traumatic stress disorder (14).

Additionally, the chronic stress and emotional turmoil can adversely affect their physical health, potentially weakening their immune systems and increasing the risk of various health issues (15). The result indicating that over half of mothers caring for children with cancer experience high levels of psychological distress are in line with existing research. Healthcare professionals must recognize the psychological needs of these mothers and provide adequate support to help them cope with these challenges effectively (30). Early intervention and a holistic approach to care can make a significant difference in improving the mental health and overall quality of life of these mothers (30).

The current study findings indicating that a significant proportion of mothers (58.8%) employ coping strategies with relatively low levels of effectiveness, as evidenced by their average scores (67.58 ± 19.38). We will explore the implications of these findings and discuss potential avenues for improving the support and well-being of mothers facing this distressing situation. The study by Lakkis et al., 2016 investigated the coping strategies utilized by mothers of children battling cancer; Coping strategies are diverse and can range from seeking

emotional support to adopting problem-solving techniques (16). The findings revealed that a substantial number of mothers are actively seeking ways to cope with the emotional burden that comes with a child's cancer diagnosis. However, the current study also highlights a concerning trend: many mothers reported relatively low levels of effectiveness in their chosen coping strategies. According to Stoppelbein et al., 2017 effective coping is crucial for the well-being of parents and, by extension, the well-being of the child undergoing treatment, Parents who employ effective coping strategies tend to experience lower levels of stress and anxiety, leading to better overall family functioning and in contrast, ineffective coping can exacerbate stress, potentially impacting both the parent's and the child's mental health (17).

The present findings indicating that a significant percentage of mothers of children with cancer employ coping strategies with relatively low levels of effectiveness highlight the need for a multifaceted approach to support. Targeted interventions, mental health resources, and community support networks can collectively contribute to improving the well-being of these mothers. As we continue to expand our understanding of the challenges faced by these families, it is crucial to advocate for and implement measures that enhance the coping skills and overall mental health of mothers caring for children with cancer.

Coping strategies play a vital role in how families navigate the challenges of pediatric cancer, and understanding the factors that influence these coping mechanisms is essential for providing effective support (32). This current discussion focuses on findings that indicate a statistically significant inverse correlation between the psychological aspects of mothers and their coping strategies when their children are diagnosed with cancer, with a particular emphasis on family integration, social support, communication with healthcare professionals, and overall coping.

The present study indicate negative correlation between maternal psychological aspects and family integration ($r = -.445$; $p < 0.01$) suggests that as mothers experience higher levels of psychological distress, their ability to integrate and involve the family in coping with the child's illness decreases. This finding is consistent with prior research that highlights the challenges families face when trying to maintain a sense of normalcy amidst the crisis of cancer ⁽¹⁸⁾. The current study indicate negative correlation between maternal psychological aspects and social support ($r = -.353$; $p < 0.01$) underscores the importance of a strong support network for mothers facing the stress of their child's cancer diagnosis. When mothers experience greater psychological distress, they are less likely to seek and receive social support, which can have a detrimental impact on their overall well-being ⁽¹⁹⁾. The finding of this study indicate a strong inverse correlation between maternal psychological aspects and communication with healthcare professionals ($r = -.522$; $p < 0.01$) highlights a significant challenge. Mothers who are more psychologically distressed may struggle to effectively communicate with healthcare providers, potentially leading to misunderstandings, unmet needs, and additional stress during their child's treatment ⁽²⁰⁾.

In this study notes most substantial inverse correlation is observed in overall coping ($r = -.624$; $p < 0.01$). As maternal psychological distress increases, their ability to cope effectively with the challenges of their child's cancer diagnosis diminishes significantly ⁽²¹⁾. This finding underscores the central role of maternal well-being in the family's ability to adapt and cope with the situation ⁽²²⁾.

The current study indicates statistically significant inverse correlations between maternal psychological aspects and coping strategies in the context of a child's cancer diagnosis highlight the critical need to address maternal distress as a central component of pediatric cancer care.

By focusing on improving maternal well-being, enhancing communication, and bolstering support systems, healthcare professionals and support networks can contribute to more effective coping strategies and improved outcomes for families facing this challenging journey.

CONCLUSIONS:

The study highlights the alarming prevalence of psychological distress among mothers with children diagnosed with cancer and underscores the ineffectiveness of many coping strategies employed by these mothers. The strong negative correlations between psychological well-being and various coping domains emphasize the need for targeted interventions to support these mothers.

RECOMMENDATIONS:

It is recommended that healthcare professionals and support organizations prioritize the provision of tailored psychological support, enhancing family integration, bolstering social support networks, and improving communication with healthcare professionals to alleviate the psychological burden faced by these mothers and improve their overall well-being.

Acknowledgment

The authors thank the Middle Euphrates Cancer Center in Al-Najaf Al Ashraf Governorate for their help in collecting the data in this study.

Financial support and sponsorship

No financial support was granted for this study

Conflict of interest

There are no conflicts of interest.

REFERENCES:

1. Lupo PJ, Spector LG. Cancer progress and priorities: childhood cancer. *Cancer Epidemiology, Biomarkers & Prevention*. 2020 Jun 1;29(6):1081-94.
2. Klemp JR, Knight CJ, Lowry B, Long T, Bush C, Alsmann K, Krebill H, Peereboom D, Overholser L, Greiner KA. Informing the delivery of cancer

- survivorship care in rural primary care practice. *Journal of Cancer Survivorship*. 2022 Feb;16(1):4-12.
3. Bhatia KP, Ganguly S, Sasi A, Kumar V, Deo S, Agarwala S, Radhakrishnan V, Swaminathan R, Kapoor G, Manoharan N, Malhotra S. Sex disparity in childhood cancer in India: a multi-centre, individual patient data analysis. *The Lancet Oncology*. 2023 Jan 1;24(1):54-63.
 4. Sullivan M, Bouffet E, Rodriguez-Galindo C, Luna-Fineman S, Khan MS, Kearns P, Hawkins DS, Challinor J, Morrissey L, Fuchs J, Marcus K. The COVID-19 pandemic: a rapid global response for children with cancer from SIOP, COG, SIOP-E, SIOP-PODC, IPSO, PROS, CCI, and St Jude Global. *Pediatric blood & cancer*. 2020 Jul;67(7):e28409.
 5. Ochoa CY, Chan RY, Cervantes L, Baezconde-Garbanati L, Farias AJ, Milam JE, Cho J, Miller KA. Barriers and facilitators of Hispanic/Latino parents caregiving for a childhood cancer survivor: a qualitative study. *Cancer Causes & Control*. 2023 Feb;34(2):151-60.
 6. Sharma R, Shyam R, Grover S. Coping strategies used by parents of children diagnosed with cancer. *Indian journal of social psychiatry*. 2018 Jul 1;34(3):249-54.
 7. Koumariou A, Symeonidi AE, Kattamis A, Linardatou K, Chrousos GP, Darviri C. A review of psychosocial interventions targeting families of children with cancer. *Palliative & Supportive Care*. 2021 Feb;19(1):103-18.
 8. Okado Y, Tillery R, Howard Sharp K, Long AM, Phipps S. Effects of time since diagnosis on the association between parent and child distress in families with pediatric cancer. *Children's Health Care*. 2016 Jul 2;45(3):303-22.
 9. Tan CE, Lau SC, Latiff ZA, Lee CC, Teh KH, Sidik SM. Information needs of Malaysian parents of children with cancer: A qualitative study. *Asia-Pacific Journal of Oncology Nursing*. 2022 Mar 1;9(3):143-52.
 10. AL-Jubori RH, Yasir AA, Hindi NK. Quality of life among amputees: A mediating role of social support. *Medical Journal of Babylon*. 2023 Apr 1;20(2):315.
 11. Richards OK, Scott CF, Spiller A, Marcu G. "Wearing a High Heel and a House Shoe at the Same Time": Parents' Information Needs While Navigating Change in their Child's Behavioral Care. *Proceedings of the ACM on Human-Computer Interaction*. 2022 Nov 11;6(CSCW2):1-32.
 12. Hjelle EG, Bragstad LK, Zucknick M, Kirkevold M, Thommessen B, Sveen U. The General Health Questionnaire-28 (GHQ-28) as an outcome measurement in a randomized controlled trial in a Norwegian stroke population. *BMC psychology*. 2019 Dec;7(1):1-1.
 13. Ferrari F, Faccio F, Peccatori F, Pravettoni G. Psychological issues and construction of the mother-child relationship in women with cancer during pregnancy: a perspective on current and future directions. *BMC psychology*. 2018 Dec;6(1):1-4.
 14. Nurhidayah I, Dewi RK, Hidayati NO, Poddar S. Psychological Distress among Parents due to Their Children Having Cancer: A Systematic Review. *Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*. 2022 Aug 19;17(sp1).
 15. Radhi MM, Abd RK, Al Eqabi QA. The Body image and its relation to self-esteem among amputation patients at Artificial Limbs Hospital at Kut City, Iraq. *Journal of Public Health in Africa*. 2022;13(4).
 16. Lakkis NA, Khoury JM, Mahmassani DM, Ramia MS, Hamadeh GN. Psychological distress and coping strategies in parents of children with cancer in Lebanon. *Psycho-Oncology*. 2016 Apr;25(4):428-34.
 17. Stoppelbein L, McRae E, Greening L. A longitudinal study of hardiness as a buffer for posttraumatic stress symptoms in mothers of children with cancer. *Clinical practice in pediatric psychology*. 2017 Jun;5(2):149.
 18. Burns-Nader S, Hernandez-Reif M, Porter M. The relationship between mothers' coping patterns and children's anxiety about their hospitalization as

- reflected in drawings. *Journal of child health care*. 2014 Mar;18(1):6-18.
19. Sharma R, Shyam R, Grover S. Coping strategies used by parents of children diagnosed with cancer. *Indian journal of social psychiatry*. 2018 Jul 1;34(3):249-54.
 20. Compas BE, Bemis H, Gerhardt CA, Dunn MJ, Rodriguez EM, Desjardins L, Preacher KJ, Manning S, Vannatta K. Mothers and fathers coping with their children's cancer: Individual and interpersonal processes. *Health Psychology*. 2015 Aug;34(8):783.
 21. Makhoul-Khoury S, Ben-Zur H. The Effects of Coping Strategies on Distress and Quality of Life among Jewish and Arab Mothers with a child diagnosed with cancer. *European Journal of Oncology Nursing*. 2022 Jun 1;58:102140.
 22. Abbas SJ. Health-Related quality of life of knee osteoarthritis patients. *Medical Journal of Babylon*. 2022 Jul 1;19(3):463.
 23. Batouli, A., Jahanshahi, P., Gross, C. P., Makarov, D. V., & James, B. Y. (2014). The global cancer divide: Relationships between national healthcare resources and cancer outcomes in high-income vs. middle-and low-income countries. *Journal of epidemiology and global health*, 4(2), 115-124.
 24. Horton, S., & Gauvreau, C. L. (2015). Cancer in low-and middle-income countries: an economic overview. *Cancer: disease control priorities*, 3, 263-80.
 25. Kim, Y., Lee, K. S., & Koh, K. N. (2018). Difficulties faced by long-term childhood cancer survivors: A qualitative study. *European Journal of Oncology Nursing*, 36, 129-134.
 26. Benedict, C., McLeggon, J. A., Thom, B., Kelvin, J. F., Landwehr, M., Watson, S., & Ford, J. S. (2018). "Creating a family after battling cancer is exhausting and maddening": Exploring real-world experiences of young adult cancer survivors seeking financial assistance for family building after treatment. *Psycho-oncology*, 27(12), 2829-2839.
 27. Ogez, D., Péroquin, K., Bertout, L., Bourque, C. J., Curnier, D., Drouin, S., ... & Sultan, S. (2019). Psychosocial intervention programs for parents of children with cancer: A systematic review and critical comparison of programs' models and development. *Journal of Clinical Psychology in Medical Settings*, 26, 550-574.
 28. Kazak, A. E., & Noll, R. B. (2015). The integration of psychology in pediatric oncology research and practice: collaboration to improve care and outcomes for children and families. *American Psychologist*, 70(2), 146.
 29. Ullgren, H., Tsitsi, T., Papastavrou, E., & Charalambous, A. (2018). How family caregivers of cancer patients manage symptoms at home: A systematic review. *International journal of nursing studies*, 85, 68-79.
 30. Hall, L. K., & Moore, B. A. (2016). Counseling military families: What mental health professionals need to know. *Routledge*.
 31. Olarte-Sierra, M. F., Rossell, N., Zubieta, M., & Challinor, J. (2020). Parent engagement and agency in Latin American childhood cancer treatment: a qualitative investigation. *JCO Global Oncology*, 6, 1729-1735.
 32. Greer, J. A., Applebaum, A. J., Jacobsen, J. C., Temel, J. S., & Jackson, V. A. (2020). Understanding and addressing the role of coping in palliative care for patients with advanced cancer. *Journal of clinical oncology*, 38(9), 915.
 33. Pishkuhi, M. A., Ahmadi, M., Shoraka, H., & Chegeni, M. (2018). Parents' experience of caring children with cancer: A qualitative study with phenomenological approach. *Journal of Comprehensive Pediatrics*, 9(4).