PSYCHOLOGICAL RESILIENCE STATUS OF MOTHERS WITH CHILDREN WITH CANCER: A CROSS-SECTIONAL STUDY

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Abstract

Purpose: This study aimed to determine the factors affecting the psychological resilience of mothers of children with cancer.

Design and methods: The study is a descriptive cross-sectional study. The sample size was calculated as 118. The criteria for participating in the study were volunteering, having a child between the ages of 0-18 diagnosed with cancer, and being literate. Data were collected using a personal information form and the Psychological Resilience Scale for Parents of Children with Cancer. Descriptive statistics, Mann-Whitney U Test, and Kruskal Wallis test were used for analyses. The Cronbach alpha coefficient of the scale was determined as 0.71 in this study.

Results: The mean age of the mothers in the study was 35.42±7.46 (min:20-max:60), and 75.4% were between the ages of 18-40. The total mean score of the scale was 95.42±7.90. It was found that the mothers' age, marital status, education status, income status, social security status, diagnosis period and care duration were significant for the sub-dimensions of psychological resilience.

Conclusion: It is recommended to develop resilience training programs to increase resilience in parents of children with cancer, to integrate parent-child communication, problem-solving and

caregiving skills training into the resilience training program, and to evaluate parents psychologically at regular intervals during diagnosis and treatment.

Practice implications: Healthcare professionals should develop psychosocial interventions and resilience training programs to increase resilience and contribute to the caregiving skills of mothers of children with cancer.

Keywords: Child with Cancer, Psychological Resilience, Mothers, Psychosocial Interventions, Nursing.

Highlights

What is already known: A child's cancer diagnosis can be a source of stress for parents. While parents can be sources of support for their children with cancer, they are also known to experience a heavy burden.

What this paper adds: Building resilience is an important alternative strategy for improving mental health. Identifying protective factors in mothers of children with cancer may help tailor interventions to improve their psychological well-being. The current study can guide the development of resilience training programs.

Intraduction

After a child is diagnosed with cancer, parents must rearrange family roles and routines, prepare for high medical expenses, and manage intensive treatment regimens, all of which can cause tremendous stress for parents (Tsimicalis et al. 2013).

Previous research has shown that parents experience varying degrees of psychological distress during their child's cancer experience and report experiencing depressive symptoms, anxiety, and post-traumatic stress disorder (van Warmerdam et al. 2019). There are studies showing that psychological resilience benefits the physical and psychological health of parents of children with cancer, especially mental health, and is also negatively associated with depressive symptoms and post-traumatic stress disorder (Bajjani-Gebara et al. 2019, Shi et al 2017, Ye et al. 2015). However, some parents show extraordinary strength and resilience during their child's cancer treatment (Phipps et al. 2015).

Resilience is the process by which an individual becomes emotionally and behaviorally flexible in the face of events or situations and successfully adapts to challenging life experiences

(APA, 2023). Psychological resilience allows the individual to live in balance within their social environment (Schwarz, 2018). Although parents are valuable sources of support for their children with cancer, it is known that they experience a heavy burden in monitoring treatment sessions, managing symptoms and providing emotional support. Therefore, they need resilience. Since positive behaviors of parents have positive effects on the health and treatment of children with cancer, not giving up hope and increasing resilience are important coping methods for parents (Khosrobeigi et al., 2021). It has been stated in the literature that parents' stress increases their children's stress, and that increasing parents' psychological resilience will help sick children adapt to changes more easily and recover (Isokääntä et al., 2018).

According to Robertson and Cooper (2013), resilience has behavioral and psychological components. The psychological components of resilience help people maintain their mental health in the face of difficulties; while the behavioral components help people focus on their work, tasks, and goals in the face of difficulties. Identifying protective factors in mothers of children with cancer may help tailor interventions to improve their psychological health. Developing resilience is an important alternative strategy to improve mental health. The purpose of this study is to reveal the factors contributing to the psychological resilience and resilience of mothers of children with cancer between the ages of 0-18.

MATERIAL AND METHODS

The study is a descriptive cross-sectional study. The study was conducted in a university hospital's pediatric hematology and oncology clinic and polyclinic. The population of the study consists of mothers of children between the ages of 0-18 who are followed in the hospital's pediatric hematology and oncology clinic and polyclinic. The G Power program was used to calculate the sample size. The confidence interval was α=0.05, the power of the test (1-β) was 0.90, and the total was calculated as 118 (Önal, 2022). The dependent variable of the study is the Psychological Resilience Scale for Parents of Children with Cancer; sociodemographic characteristics constitute the independent variable.

Criteria for Inclusion in the Study

- Volunteering to participate in the study,
- Having a child between the ages of 0-18 diagnosed with cancer,
- Being literate.

Criteria for Exclusion from the Study

- Not volunteering to participate in the study,
- Having a child in palliative care,

- Having a psychiatric diagnosis,
- Not speaking Turkish.

Data collection:

Before the research, written permission was obtained starting from the local clinical research ethics committee. The purpose and content of the study were explained to mothers who volunteered to participate in the study and met the inclusion criteria, and they signed an informed consent form. Afterwards, the Personal Information Form and the Psychological Resilience Scale for Parents of Children with Cancer were applied face to face. The application period lasted approximately 25 minutes.

Data Collection Tools

Personal Information Form: The form consists of questions regarding the sociodemographic characteristics of the mother and child.

Psychological Resilience Scale for Parents of Children with Cancer: It is a 5-point Likert-type scale consisting of 30 items. Each item in the scale is answered as ‘‘Strongly disagree’’, ‘‘Agree’’, ‘‘Neither agree nor disagree’’, ‘‘Agree’’, ‘‘Always agree’’. In the reliability analysis of the scale, Cronbach alpha = 0.994 was found. It was confirmed that the developed scale had a 24-item scale structure consisting of 4 dimensions, and it was determined that the scale met the necessary criteria to examine the level of psychological resilience in parents of children diagnosed with cancer between the ages of 0-18. The first 12 items of the scale constitute the sub-dimensions of “Coping”; items 13-17 constitute the sub-dimensions of “Emotional stress”; items 18-21 constitute the sub-dimensions of “Social support”; and items 22-24 constitute the sub-dimensions of “Caregiver burden”. The scale items have a 5-point Likert scale as “1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree; 5: strongly disagree”. Items 13, 14, 15, 16,17, 22, 23, and 24 on the scale are reverse scored. The lowest score that can be obtained from the scale is 24; the highest score is 120. As the score obtained from the scale increases, the level of psychological resilience of the parents increases (Önal, 2022).

Data Analysis

Data analysis was performed using SPSS 24.0 (Statistical Packages for the Social Science) package program. The following statistical tests were used in the analysis of the data. The scores obtained from the scale were examined with the normal distribution test skewness and kurtosis and it was determined that they did not comply with the normal distribution ($p>0.05$). Therefore, nonparametric tests were used.

Descriptive analysis (number, percentage and mean) for the data obtained from the Personal Information Form, the total mean score of the Psychological Resilience Scale for Parents of Children with Cancer, the Cronbach's alpha coefficient to determine the internal consistency in the reliability study of the Psychological Resilience Scale for Parents of Children with Cancer, the total mean score of the Psychological Resilience Scale for Parents of Children with Cancer and the data obtained from the Mother and Child Introduction Form were analyzed using the Mann-Whitney U Test in groups of 2 and the Kruskal Wallis test in groups of more than 2. $p<0.05$ was considered statistically different. The Cronbach's alpha coefficient of the scale was determined as 0.71 in this study.

Findings

Table 1. Distribution of Sociodemographic Characteristics of Mothers (n=118)

Sociodemographic Characteristics	**X ± SD**	**Min-Max**
Average Age	35.42±7.46	20-60
Age	**n**	**%**
18-40 years	89	75.4
41 and above	29	24.6
Marital status		
Married	114	96.6
Single	4	3.4
Education		
Literate	26	22
Primary school	60	50.8
High school	20	16.9
University and above	12	10.2
Working status		
Employed	8	6.8
Not employed	110	93.2
Social security		
Yes	41	34.7
No	77	62.3
Income status		
Low	59	50.0
Medium	58	49.2
High	1	0.8
Family type		
Nuclear family	106	89.8
Extended family	10	8.5
Broken family	2	1.7
Place of residence		
Province/district	102	86.4
Village	16	13.6
Presence of chronic disease		
Yes	18	15.3
No	100	84.7
Number of children		
One child	10	8.5
2-3 children	60	50.8
4 and more	48	40.7
Gender of child in care		
Girl	52	44.1
Boy	66	55.9
Time of diagnosis of child		

Newly diagnosed	60	50.8
6 months ago	19	16.1
6 months-1 year	19	16.1
More than 1 year ago	20	16.9
Duration of care for your child		
6 months and below	69	58.5
6 months to 1 year	28	23.7
More than 1 year	21	17.8
Presence of a harmful habit		
Yes	20	16.9
No	98	83.1
Presence of social support in the care of the child		
Yes	13	11.0
No	105	89.0
Experience of social isolation due to the child's condition		
Yes	114	96.6
No	4	3.4

The mean age of the mothers in the study was 35.42±7.46 (min:20-max:60), and 75.4% were between the ages of 18-40. 96.6% of the mothers were married and almost half were primary school graduates. Only 6.8% of the mothers were working. Those with social security were determined as 34.7%, and their income level was low (50%). When the family structure was examined, 89.8% had a nuclear family structure. The majority of the mothers (86.4%) resided in the province/district. 15.3% of the mothers had a chronic disease. The majority were mothers with 2-3 and over 4 children (50.8%; 40.7%, respectively). The majority of the mothers (83.1%) did not have any harmful habits (smoking, alcohol, etc.). The gender of the child being cared for is female 44.1%; male 55.9%. Almost half of the children of the mothers in our study (50.8) were newly diagnosed. The duration of child care was 6 months or less with 58.5%. The majority of mothers reported that they did not have social support in caring for their children (89%). Mothers who experienced social isolation due to their child's condition were determined as 96.6% (Table 1).

Table 2. Psychological Resilience Scale Total and Sub-Dimension Score Mean for Parents of Children with Cancer (n=118)

Psychological Resilience Scale Total and Sub-Dimension Score Averages for Parents of Children with Cancer	**X ± SD**	**Min-Max**
Coping	47.54±6.03	25-59
Emotional stress	18.91±3.29	12-25
Social support	15.77±2.74	10-20
Caregiver burden	13.19±1.49	5-15
Total score average	95.42±7.90	54-114

Table 2 shows the total and sub-dimension score averages of the psychological resilience scale for parents of children with cancer. The total scale score average was 95.42±7.90. The coping sub-dimension score average was 47.54±6.03; the emotional stress sub-dimension score average was 18.91±3.29; the social support sub-dimension score average was 15.77±2.74 and the caregiver burden sub-dimension score average was 13.19±1.49.

Table 3. Comparison of Sociodemographic Characteristics of Mothers and Total Mean Scores of the Psychological Resilience Scale for Parents of Children with Cancer (n=118)

Sociodemographic Characteristics	Başa Çıkma X ± SD ve Test Değeri	Duygusal Stres X ± SD ve Test Değeri	Sosyal Destek X ± SD ve Test Değeri	Bakım Veren Yükü X ± SD ve Test Değeri	Ölçek Toplam Puan X ± SD ve Test Değeri
Age					
18-40 years	47.22±6.34	18.95±3.31	15.48±2.80	13.07±1.54	94.74±8.32
41- above	48.51±4.93	18.79±3.27	16.65±2.36	13.55±1.29	97.51±6.09
	U=1158.50 p=.408	U=1252.00 p=.809	**U=953.50 p=.033**	U=1061.50 p=.140	U=995.50 p=.065
Marital status					
Married	47.76±5.91	18.84±3.29	15.76±2.71	13.18±1.49	95.55±7.80
Single	41.25±6.84	21.00±2.82	16.00±4.08	13.50±1.73	91.75±11.08
	U=81.00 p=.028	U=139.00 p=.184	U=192.00 p=.588	U=195.00 p=.613	U=201.50 p=.693
Educational Status					
Literate	46.76±6.74	19.03±2.76	14.34±2.51	13.07±0.89	93.23±7.90
Primary School	47.13±6.19	19.03±3.64	15.85±2.71	13.15±1.72	95.16±8.19
High School	49.90±5.36	19.01±3.22	16.60±2.85	13.45±1.57	99.05±7.61
University and above	47.33±4.00	17.75±2.66	17.08±2.02	13.25±1.28	95.41±5.14
	KW=3.196 p=.362	KW=2.255 p=.521	**KW=11.599 p=.009**	KW=.988 p=.804	KW=6.035 p=.110
Social security					
Yes	47.46±5.09	17.87±3.53	16.41±2.31	12.87±1.24	94.63±5.15
No	47.53±6.51	19.46±3.03	15.42±2.90	13.36±1.59	95.84±9.03
	U=1494.50 p=.634	**U=1172.00 p=.021**	U=1293.00 p=.103	**U=1216.50 p=.035**	U=1381.50 p=.265
Income Status					
Low	47.01±6.60	19.11±2.92	14.94±2.80	13.01±1.64	94.10±8.67
Medium	48.12±5.44	18.72±3.66	16.55±2.44	13.36±1.35	96.75±6.93
High	45.00±0.00	18.00±0.00	19.00±0.00	14.00±0.00	96.00±0.0
	KW=.997 p=.608	KW=.429 p=.807	**KW=11.799 p=.003**	KW=1.273 p=.529	KW=2.505 p=.286
Presence chronic disease					
Yes	47.50±7.54	19.00±3.28	14.33±2.93	13.00±1.23	93.83±8.95
No	47.55±5.76	18.90±3.31	16.03±2.64	13.23±1.54	95.71±7.71

	U=823.00 p=.564	U=872.50 p=.836	**U=583.00** **p=.016**	U=789.00 p=.392	U=802.50 p=.465
Diagnosed time					
Newly diagnosed	48.05±5.42	18.05±3.61	16.26±2.40	13.15±1.43	95.51±6.89
6 months ago	47.73±4.68	20.31±2.53	15.57±2.67	13.63±1.06	97.26±5.71
6 months-1 year	45.68±6.98	19.57±2.09	16.15±3.21	13.42±1.30	94.84±7.83
More than 1 year	47.60±7.84	19.55±2.62	14.10±2.80	12.70±2.05	93.95±11.92
	KW=2.485 p=.478	**KW=7.844** **p=.049**	**KW=8.825** **p=.032**	KW=3.059 p=.383	KW=1.438 p=.607
Duration of child care					
6 months and below	48.00±5.33	18.13±3.38	16.18±2.37	13.11±1.36	95.43±6.61
6 months to 1 year	46.39±6.40	20.53±2.86	15.82±3.16	13.75±1.23	96.50±7.59
More than 1 year	47.57±7.65	19.33±2.74	14.33±2.93	12.71±2.00	93.95±11.62
	KW=1.973 p=.373	**KW=10.146** **p=.006**	**KW=6.318** **p=.042**	KW=5.600 p=.061	KW=1.359 p=.507

*p<0.05

Table 3 is the comparison of the sociodemographic characteristics of the mothers and the mean scores of the Psychological Resilience Scale for Parents of Children with Cancer. A significant difference was found between the Coping sub-dimension of the Psychological Resilience Scale for Parents of Children with Cancer and marital status (p<0.05). The difference between the emotional stress sub-dimension and social security, diagnosis period and child care period is significant (p<0.05). The statistical analysis result between the social support sub-dimension and age, education level, income level, chronic disease status, diagnosis period and child care period is significant (p<0.05). The statistical analysis result between the caregiver burden sub-dimension and social security is significant (p<0.05).

It was concluded that the variables included in the study, such as employment status, family type, place of residence, number of children, gender of the child being cared for, presence of harmful habits in the mother, presence of social support in the care of the child, and social isolation due to the child's condition, did not have a significant effect on psychological resilience. Therefore, they are not shown in the table.

Discussion

Having a child diagnosed with cancer, a potentially fatal disease, is one of the most stressful and life-changing experiences a parent can face (Koumarianou et al., 2021). Parents are at the center of pediatric care, often involved in making decisions about multiple treatment options, closely monitoring the child’s symptoms, and frequent and lengthy hospital visits (Liu et al. 2022). It is particularly challenging for parents to confront the fear of their child’s possible death, overcome conflict between work and childcare, and cope with the emotional and financial demands of medical/non-medical care and expenses. The health of parents caring for

a child affected by cancer may be negatively affected because they spend most of their time and energy on the process of caring for the child with cancer (Galindo-Vazquez et al., 2015). This burden is especially heavy for parents of chronically ill children; coping with these problems can lead to some psychopathologies and disruptions in social relationships (Greenzang et al., 2021; Ahmadi et al., 2018; Wang et al., 2017).

In the literature, it has been reported that the social support perceived by parents positively affects psychological resilience (Mezgebu et al., 2020; Toledano-Toledano, 2021; Atay & Işıl, 2024). In addition, it has been shown that as the social support score of parents of children with cancer decreases, parenting stress increases (Kelada et al., 2019; Tsai et al., 2013; Çınar et al., 2021).

Another study has also indicated that the most effective dimension of resilience in coping with illness is social support (Almeida & Pereira, 2016). Research in a similar area has examined the main factors that help families develop resilience during a crisis. The findings have revealed that family resilience during a crisis is influenced by, among other things, social resources and open communication between family members (Heuser et al., 2024). It is important for parents to receive support from friends, acquaintances, neighbors and colleagues, and to receive help with care from their spouse/family members in terms of social support.

In our study, mothers with advanced age, higher education level, higher income level and no chronic disease had higher social support scores. This result suggests that mothers' advanced age-related experiences, communication skills, knowledge and perception levels, and being wealthy and healthy positively affect social networks.

In one study, it was determined that psychological resilience was high in the first months after diagnosis (Koç et al., 2024). In our study, mothers whose children were newly diagnosed and diagnosed between 6 months and 1 year and who had been caring for their children for at least 6 months also had high and significant social support scores. In our study, mothers who received social support can exhibit high-quality caregiving behaviors. Therefore, it is necessary to help parents develop the caregiving skills needed to meet the needs of children with cancer. Equipping parents with caregiving skills is an effective way to increase resilience in parents of children with cancer (Luo et al., 2022).

Parents’ positive coping is essential for successfully caring for their sick children. Coping is everything people do to adapt to the challenges and demands of stress and to reduce the negative

impact of stress (Mezgebu et al. 2020). Evidence suggests that social support plays an important role in successful coping (Kaboudi et al., 2018; Mohammadsalehi et al., 2022). Moreover, social support acts as a buffer against stress, improves resilience, and positively affects mental health (Mohammadsalehi et al., 2022). It is emphasized that parents caring for children with cancer need to develop the ability to adapt and cope in the most appropriate way to manage the process (Gu, 2019; Mensah et al., 2023). In our study, married mothers had high coping scores. In one study, many parents reported that they received a lot of social support when coping with their child's cancer and that spousal support was important (Luo et al. 2022). Mothers who received spousal support may have been relieved by effectively controlling stress through sharing the responsibility of caring for their children and effective communication. For a single parent, having a child with cancer can cause lack of social support, economic and psychological difficulties. Training in stress management and problem-solving skills can increase parental resilience by developing positive coping strategies.

Caregiver burden is defined as the physical, psychological, social or economic responses of the caregiver to the daily care of a child with special health needs (Rasoulpoor et al., 2023). In our study, the caregiver burden of those without social security is higher and more significant. Pediatric cancers require special health care. The absence of social security will also bring financial difficulties.

Parents of children with cancer may experience emotional fluctuations while trying to provide them with the most appropriate care and support. In our study, the difference between experiencing emotional stress and social security, the time of diagnosis and the time of caring for the child was significant ($p<0.05$). The period immediately after the child is diagnosed with cancer is considered the most stressful time for parents (Sultan et al., 2016). It has been reported that parents' stress levels are significantly higher after the diagnosis process (Mu et al., 2015). It has been stated that the first six months after the diagnosis of childhood cancer are a period of psychosocial and emotional adjustment for both parents and children (Tsai et al., 2013). During this process, social support and coping interventions are important in reducing stress. Social support is seen as an important resilience and a buffer against the negative effects of stress (Schwartz-Attias et al., 2023). It has been proven that social support helps reduce parents' stress (Melguizo-Garín et al., 2019; 2022; 2023). Poor social support can cause emotional stress by causing them to experience inadequacy in maintaining parental roles and responsibilities.

When parents perceive their child's illness as more severe, they will experience more psychological distress (Bilani et al., 2019). Beck (2019) stated that it is not the problem but the interpretation of the problem that affects people's coping. While the diagnosis itself cannot be changed, changing the way it is perceived can significantly improve coping strategies and adaptation to the situation, which can lead to improved coping and well-being (Schwartz-Attias et al., 2024).

Conclusion

The results of this study emphasize that the age, marital status, education, income, social security status, the duration of diagnosis and the duration of care are important for the sub-dimensions of psychological resilience of mothers. Appropriate interventions such as supportive social networks and the use of psychosocial services can improve parental well-being and family functioning. Regular psychological evaluation of parents of children with cancer at the time of diagnosis, during treatment and at the end of treatment and providing support to those in need should be part of the multidisciplinary approach.

The findings of the current study are important for the development of resilience training programs to increase resilience in parents of children with cancer in the near future. Healthcare practitioners should pay more attention to parents with low resilience levels and implement targeted resilience training to improve their well-being. In the content of training programs, it is important to address factors that may affect resilience, such as making parents aware of the importance of communication, equipping them with care skills, and providing appropriate health education. It is recommended that parent-child communication skills, problem-solving skills, and caregiving skills training be integrated into the resilience training program.

These recommendations can deeply guide nursing interventions, increase parents' adaptability, and empower children with cancer.

Limitations of the study

The main limitation of this study is its cross-sectional design, which limits the ability to determine causality. This study was conducted on a small sample of mothers of children with cancer and cannot be generalized. It focused only on mothers of children with cancer, so the findings may not be generalizable to caregivers of children with other chronic conditions. Additionally, the use of self-report questionnaires for data collection may have resulted in subjective responses.

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