

Cancer Patients' Attachment Styles in the First Year After Diagnosis: The Impact of Perceived Stress and Emotion Regulation Skills

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ABSTRACT

Background: This study aimed to determine the magnitude of perceived stress among cancer patients in the first year of diagnosis and to reveal the effects of stress levels and emotion regulation skills on attachment styles.

Methods: This cross-sectional study involved 200 patients enrolled in a medical oncology outpatient clinic in the first year of cancer diagnosis. Attachment styles were determined using the Adult Attachment Style Scale. Stress levels and emotion regulation skills were assessed with the Perceived Stress Scale (PSS) and the Emotion Regulation Skills Questionnaire (ERSQ). The participants were questioned about their cohabitant status and caregiver preferences.

Results: The analyses revealed that almost half of the participants (n=99) had high stress levels ($P=.001$), and most (69%) had a secure attachment style. The results indicate that secure attachment styles had a weak negative correlation with PSS scores ($r=-0.191$; $P=.007$) and a weak positive, statistically significant correlation with ERSQ scores ($r=0.297$; $P<.001$). The study found that perceived stress during the first year after diagnosis had a significant effect on the development of insecure attachment styles (Exp(B): 1.051; 95% confidence interval (CI), 1.009-1.095; $P<.05$). Emotion regulation skills affect insecure attachment styles, as indicated by the statistical analysis (Exp(B): 0.982; 95% CI, 0.965-0.999; $P<.05$).

Conclusion: Our findings support the idea that stress levels and emotion regulation affect attachment styles. Awareness of attachment theory and the effects of different forms of insecure attachment on patients is essential to improving their ability to better understand and meet their support needs.

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INTRODUCTION

In the relationship between a child and a caregiver, the child's search for closeness with the caregiver is defined as attachment.¹ According to attachment theory, individual differences in the accessibility of the caregiver that begin in infancy and in response to need lead to the formation of attachment styles. The most common classification consists of 3 styles: secure attachment, insecure-anxious attachment, and insecure-avoidant attachment.² Secure attachment refers to an internal asset that helps individuals cope with significant life difficulties, such as terminal illness and the prospect of death.³ Attachment is a developmental biobehavioral theory that explains how early parent-child interactions produce responses and regulate emotions in stressful events, such as a cancer diagnosis.⁴ Despite the similarities between childhood

and adult attachment dynamics, recent research supports the view that attachment styles are malleable.⁵⁻⁷ It has been shown that attachment styles can change in response to changes in circumstances.⁷ It has been found that an individual with a secure attachment style showing insecure attachment characteristics is associated with experiencing a negative life event such as being diagnosed with a disease.^{6,7} An analysis of 1180 patients revealed that insecure attachment was related to elevated levels of stress.⁸ In a meta-analysis, it was reported that negative life events increased the rates of insecure attachment in individuals.⁶

Perceived stress refers to the level of stress experienced by an individual and the extent to which this stress is too high and uncontrollable.⁹ Emotion regulation, which is

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closely related to perceived stress, is an individual's active effort to manage mood. The relationship between emotion regulation and psychological symptoms makes it necessary to define basic emotion regulation skills.¹⁰ Psychosocial factors, such as stress and emotion regulation, have been shown to cause differences in attachment among cancer patients.^{11,12}

Studies have shown that those with insecure attachment styles are more likely to have a negative emotional evaluation of cancer, which is characterized by a feeling of powerlessness and the certainty of a negative outcome.¹³ A relationship between insecure styles and symptoms of depression and anxiety has been observed in cancer patients.¹⁴ According to the results of a systematic review evaluating the role of attachment in cancer adaptation, more insecure attachment styles are associated with worse outcomes regarding patients' psychological adaptation to cancer and their ability to perceive and access social support. In contrast, a secure attachment style is related to positive emotions and well-being.¹⁵

The study aims to investigate the correlation between perceived stress levels and the ability to regulate emotions and styles of attachment among cancer patients during the first year after diagnosis. We hypothesized that perceived stress would be high in the first year after diagnosis and that stress and emotion regulation skills would be related to attachment style. This study will contribute to the literature in terms of understanding the psychodynamics of highly stressed individuals and developing strategies to reduce stress at the time of cancer diagnosis.

MATERIAL AND METHODS

Study Design

This cross-sectional investigation focused on cancer patients. Based on a priori power analysis, a sample size of 134 was determined to be necessary for a test with 2 sides, with a level of significance of 5% and a power of 95%. The current study comprised 200 cancer patients who matched the inclusion criteria and were enrolled in the Medical Oncology Clinic between May and June 2022. The participants had to first review the study's objective and provide informed consent. Participants were also informed that their participation was entirely voluntary and that they

could withdraw at any time. The study participants did not receive any form of compensation for their involvement in the research. This study was conducted according to the Declaration of Helsinki and received approval from the Clinical Research Ethics Committee of Süleyman Demirel University (Approval No 9/117 of 19 Apr 2022).

Inclusion and Exclusion Criteria

Inclusion in the study required participants to be at least 18 years old, have been diagnosed with cancer between 1 month and 1 year prior, be in agreement with participation, and have completed a consent form. Those diagnosed with cancer more than 1 year ago, with mental retardation, dementia, a psychiatric disease that impairs judgment, or organic mental disorders were excluded.

General and Sociodemographic Information

The participants' ages were recorded, and gender was recorded as either male or female. Marital status was categorized as married or single. The participants were asked about the existence of a chronic illness or mental illness. They were also queried about their residence in urban or rural locales, cohabitant status, caregivers, the timing of their cancer diagnosis, and their current therapy. The responses regarding the timing of diagnosis were categorized into intervals of 6 months: 0-6 months and 7-12 months.

Data Collection Instruments

This study utilized the 14-item Perceived Stress Scale (PSS), a recognized standard tool for assessing stress. The Turkish adaptation of the PSS-14 was assessed for validity and reliability, yielding a Cronbach's alpha coefficient of 0.84 for internal consistency reliability.^{16,17} The total score ranged from 0 to 56, with high scores indicating a heightened perception of stress.

The Emotion Regulation Skills Questionnaire (ERSQ) is a 27-item self-report instrument used to assess emotion regulation abilities.¹⁸ The total score ranges from 27 to 135. The aggregate mean score can be used to evaluate the scale. High scores indicate effective emotional regulation. In the Turkish version, the internal consistency Cronbach's alpha reliability coefficient for the ERSQ was 0.89.¹⁹

Attachment styles were evaluated using the Adult Attachment Scale (AAS). Five items represent each attachment style, and high scores indicate the attachment styles of individuals completing the scale.^{20,21} As a result of the adaptation, validity, and reliability study of the scale into Turkish, the Cronbach's alpha internal consistency reliability coefficients for secure, avoidant, and anxious-ambivalent attachment were 0.72, 0.82, and 0.85, respectively.²²

In this study, Cronbach's alpha for PSS was 0.93, and ERSQ was 0.98. The AAS subscales had Cronbach's alphas of 0.70 (secure), 0.68 (anxious), and 0.70 (avoidant).

MAIN POINTS

- The perceived level of stress is elevated during the initial year following a cancer diagnosis.
- Patients with a secure attachment style tend to have low levels of perceived stress.
- Cancer patients who have secure attachment styles tend to possess better emotion regulation skills.
- Clinicians should be aware of the implications of attachment theory on patients to improve their ability to understand better and meet their support needs.

Statistical Analysis

The data were transferred to IBM Statistical Package for Social Sciences (SPSS) 25 (IBM SPSS Corp.; Armonk, NY, USA) and analyzed. Before conducting the statistical analysis, thorough checks were performed to verify the absence of any data input errors and to confirm that the data were within the permissible range. The Kolmogorov-Smirnov test was used to assess the normality of continuous data, while Levene's test was used to assess the homogeneity of variance. The reliability of the scales was assessed using Cronbach's alpha. The descriptive statistics of continuous variables provide mean and standard deviation values, while the characteristics of categorical variables provide frequency (n) and percentage (%) values. The Chi-square test and Fisher-Freeman-Halton test were used to analyze categorical variables. The median test was used to compare continuous variables. Comparisons between continuous variables were analyzed using Spearman's rho correlation test. Logistic regression analysis was conducted to assess both secure and insecure attachment types in cancer patients. Receiver operating characteristics (ROC) curves were calculated to determine a cut-off point. The cut-off value was determined according to the calculated sensitivity, specificity values, and Youden index. A significance level of $P < .05$ was used in all analyses.

RESULTS

General Characteristics

A total of 334 patients were screened for eligibility. One hundred twenty-nine patients were excluded from the study because they were diagnosed more than 1 year ago. A total of 205 patients underwent baseline assessment, of which 5 were excluded: 2 with mental retardation and 3 with low cognitive function. Figure 1 shows the flowchart of the study. The study included 200 patients: 104 males and 96 females. The participants had a median age of 58 years, ranging from 18 to 88 years. The mean duration of the diagnosis was 7.13 ± 3.94 months. The patients exhibited a wide range of cancer types, with the majority ($n=38$) presenting as gastrointestinal malignancies. Additionally, 56% ($n=112$) of the patients were diagnosed with cancer 6 months ago, 24.5% underwent adjuvant therapy, and 31% underwent metastatic therapy. This study also investigated different treatment modalities, with 116 patients undergoing chemotherapy, 45 receiving targeted therapy, and 21 undergoing radiotherapy. Most patients (69%) displayed a secure attachment style. The patients' attachment types were compared with their sociodemographic and clinical characteristics, as indicated in Table 1.

The mean PSS score of the patients was 22.09 ± 11.26 , with a median of 23 (min 0-max 56). The mean ERSQ value was 67.13 ± 25.73 , and the median was 70 (min 0-max 108).

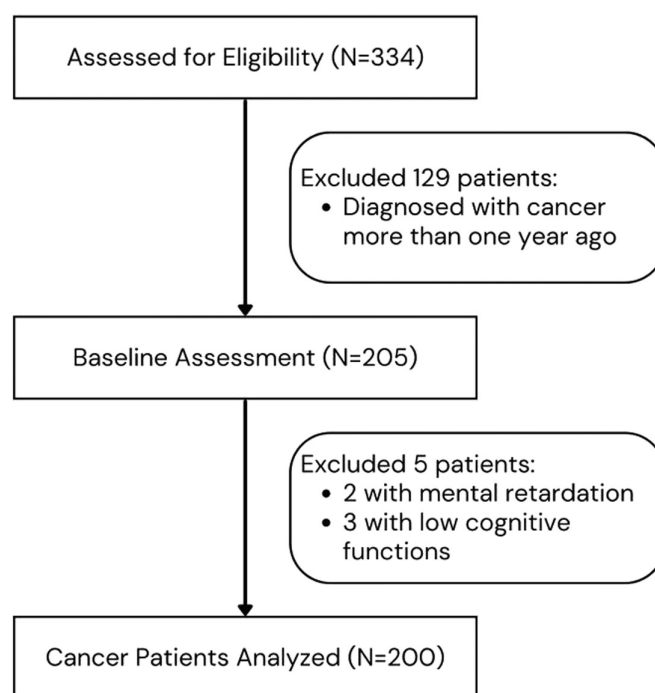


Figure 1. The flowchart of this study.

Statistically, patients in rural areas exhibited a higher ERSQ score than those in the city ($P < .05$). It was determined that the mean PSS and ERSQ scores did not show a statistically significant difference according to the type of cancer and time of cancer diagnosis ($P > .05$) (Table 2).

Correlation of Scale Scores of Perceived Stress, Emotion Regulation, and Attachment Styles

The secure attachment style had a weak negative, statistically significant correlation with the ERSQ scores ($r = -0.191$; $P = .007$). There was a moderate negative relation between PSS and ERSQ scores, which was statistically significant ($r = -0.592$; $P < .001$), as shown in Table 3.

Receiver Operating Characteristics Analysis

The effectiveness of the ERSQ and PSS scores was assessed by analyzing the ROC curves. Table 4 demonstrates that the ideal cut-off value for PSS was 23.5 (with a sensitivity of 0.449 and a specificity of 0.403). In contrast, the optimal cut-off value for ERSQ was 56.5 (with a sensitivity of 0.696 and a specificity of 0.548). We analyzed the data using the specified threshold values and found that 99 participants (49.5%) of the sample exhibited elevated stress levels. In addition, 76 participants (38%) of the sample had an inadequate ability to manage their emotions. The ROC analysis is presented in Figure 2.

Regression Analysis Results

A logistic regression analysis was conducted to examine the potential factors influencing attachment styles in

Table 1. Comparison of Attachment Styles According to Sociodemographic and Clinical Characteristics

	Secure (n=138) n (%)	Anxious (n=29) n (%)	Avoidant (n=33) n (%)	P
Gender				.413
Male	73 (52.9)	17 (58.6)	14 (42.4)	
Female	65 (47.1)	12 (41.4)	19 (57.6)	
Marital status				.821
Married	120 (87.0)	24 (82.8)	28 (84.8)	
Single	18 (13.0)	5 (17.2)	5 (15.2)	
Residence locale				.084
Urban	73 (52.9)	14 (48.3)	24 (72.7)	
Rural	65 (47.1)	15 (51.7)	9 (27.3)	
Type of cancer				.721
Head and neck	11 (8.0)	1 (3.4)	3 (9.1)	
Gastrointestinal system	25 (18.1)	7 (24.1)	6 (18.2)	
Lung	23 (16.7)	7 (24.1)	3 (9.1)	
Urinary tract	17 (12.3)	0 (0.0)	2 (6.1)	
Breast	15 (10.9)	7 (24.1)	6 (18.2)	
Gynecological	20 (14.5)	1 (3.4)	5 (15.2)	
Other	27 (19.6)	6 (20.7)	8 (24.2)	
Chronic disease				.302
Yes	72 (52.2)	18 (62.1)	14 (42.4)	
No	66 (47.8)	11 (37.9)	19 (57.6)	
Psychiatric disease				.183
Yes	28 (20.3)	9 (31.0)	4 (12.1)	
No	110 (79.7)	20 (69.0)	29 (87.9)	
Chemotherapy				.021*
Yes	89 (64.5)	13 (44.8)	14 (42.4)	
No	49 (35.5)	16 (55.2)	19 (57.6)	
Radiotherapy				.271
Yes	16 (11.6)	4 (13.8)	1 (3.0)	
No	122 (88.4)	25 (86.2)	32 (97.0)	
Targeted therapy				.963
Yes	31 (22.5)	7 (24.1)	7 (21.2)	
No	107 (77.5)	22 (75.9)	26 (78.8)	
Metastatic				.001*
Yes	84 (60.9)	26 (89.7)	28 (84.8)	
No	54 (39.1)	3 (10.3)	5 (15.2)	
Cohabitant status				.208
Parents	3 (2.2)	2 (6.9)	3 (9.1)	
Spouse/child	125 (90.6)	24 (82.8)	27 (81.8)	
Alone	7 (5.1)	3 (10.3)	3 (9.1)	
other	3 (2.2)	0 (0.0)	0 (0.0)	
Caregiver				.034*
Child	53 (38.4)	8 (27.6)	3 (9.1)	
Spouse	61 (44.2)	16 (55.2)	18 (54.5)	
A person from family	10 (7.2)	2 (6.9)	6 (18.2)	
No	14 (10.1)	3 (10.3)	6 (18.2)	
Time from diagnosis				.109
0-6 months	82 (59.4)	17 (58.6)	13 (39.4)	
7-12 months	56 (40.6)	12 (41.4)	20 (60.6)	

*P < .05, Chi-Square Test, Fisher-Freeman-Halton test; n, the number of participants.

Table 2. Mean Difference Between Sociodemographic and Clinical Characteristics According to Stress/Emotion Regulation Skills

	PSS Median (min-max)	P	ERSQ Median (min-max)	P
Gender				
Male (n=104)	23.5 (0-47)	.995	68.5 (0-108)	.405
Female (n=96)	23 (0-56)		72 (0-108)	
Marital status				
Married (n=172)	23 (0-56)	.883	70 (0-108)	.708
Single (n=28)	24.5 (0-56)		71.5 (0-108)	
Living place				
City (n=111)	22 (0-56)	.658	78 (0-108)	.008*
Rural area (n=89)	25 (0-56)		64 (0-108)	
Type of cancer				
Head and neck (n=15)	28 (0-47)	.210	72 (17-108)	.338
Gastrointestinal system (n=38)	25 (11-56)		72 (17-108)	
Lung (n=33)	27 (0-42)		64 (0-108)	
Urinary tract (n=19)	22 (0-38)		73 (0-108)	
Breast (n=28)	21 (0-47)		71.5 (0-108)	
Gynaecological (n=26)	24 (0-56)		78 (27-108)	
Other (n=41)	22 (0-38)		73 (0-108)	
Chronic disease				
Yes (n=104)	23.5 (0-56)	.995	68.5 (0-108)	.265
No (n=96)	23 (0-56)		73 (0-108)	
Psychiatric disease				
Yes (n=41)	27 (0-47)	.262	70 (0-108)	.893
No (n=159)	22 (0-56)		58 (10-108)	
Chemotherapy				
Yes (n=116)	21 (0-47)	.261	74 (0-108)	.133
No (n=84)	25 (0-56)		63 (0-108)	
Radiotherapy				
Yes (n=21)	27 (0-46)	.331	54 (27-108)	.437
No (n=179)	22 (0-56)		70 (0-108)	
Targeted therapy				
Yes (n=45)	25 (0-56)	.678	70 (0-108)	.819
No (n=155)	22 (0-56)		75 (0-108)	
Metastatic				
Yes (n=62)	24 (0-47)	.804	70.5 (0-108)	.895
No (n=138)	22.5 (0-56)		70 (0-108)	
Cohabitant status				
Parents (n=8)	24 (0-56)	.920	70 (0-108)	.529
Spouse/child (n=176)	0 (0-23)		108 (48-108)	
Alone (n=13)	26 (0-56)		56 (17-108)	
Caregiver				
Child (n=64)	24 (0-56)	.485	68 (0-108)	.699
Spouse (n=95)	23 (0-56)		70 (0-108)	
A person from family (n=18)	20 (0-47)		79 (0-108)	
No (n=23)	25 (7-40)		70 (40-104)	
Time from diagnosis				
0-6 months (n=112)	25 (0-56)	.247	72.5 (0-108)	.534
7-12 months (n=88)	21.5 (0-56)		67.5 (0-108)	

Three patients whose cohabitation status was 'other' were excluded from the statistical test. *P < .05; Median test, ERSQ, emotion regulation skills scale; PSS, perceived stress scale.

Table 3. Correlation Coefficients of Adult Attachment Styles Scale, Perceived Stress Scale, and Emotion Regulation Skills Questionnaire scores

			Attachment Style			PSS	ERSQ
			Secure (n = 138)	Anxious (n = 29)	Avoidant (n = 33)		
Attachment styles	Secure	<i>r</i>	1.000				
		<i>P</i>					
	Anxious	<i>r</i>	0.111	1.000			
		<i>P</i>	.116				
	Avoidant	<i>r</i>	−0.187	0.530	1.000		
		<i>P</i>	.008*	< .001*			
PSS		<i>r</i>	−0.191	0.153	0.298	1.000	
		<i>P</i>	.007*	.031*	< .001*		
ERSQ		<i>r</i>	0.297	−0.018	−0.221	−0.592	1.000
		<i>P</i>	< .001*	.801	.002*	< .001*	

* $P < .05$, r =Effect size, Spearman's Rho correlation test. ERSQ, emotion regulation skills scale; PSS, perceived stress scale.

participants facing life-threatening sicknesses, such as cancer. The logistic regression model developed by the backward elimination method identified perceived stress, emotion regulation abilities, metastatic treatment status, and urinary system cancer as factors significantly influencing insecure attachment styles. The analysis findings are displayed in Table 5.

DISCUSSION

Because of its effect on emotion regulation, attachment is accepted as a well-established determinant of psychological distress in patients diagnosed with cancer.²³ The findings obtained from our analysis suggest that stress and emotion regulation skills affect attachment styles in the presence of a life-threatening disease, such as cancer. This research has demonstrated that the presence of metastatic cancer, urinary system cancer, high stress levels during the first year after a cancer diagnosis, and the ability to regulate emotions all affect the development of insecure attachment styles. Existing research has not explored the relationship between perceived stress, emotion regulation skills, and attachment patterns among cancer patients in the first year after diagnosis.

The fact that attachment styles include unique emotional patterns causes attachment to be seen as an emotion regulation theory.²⁴ In a study examining the relationship

between attachment, adjustment to cancer diagnosis, and emotion regulation skills, it was shown that emotion regulation skills mediated the relationship between attachment and adjustment to cancer diagnosis.²⁵ The majority of the participants in our study had a secure attachment style. Our study found that participants with secure attachment styles had good emotion regulation skills, whereas participants with avoidant attachment styles had inadequate emotion regulation skills. The results show that attachment styles affect emotion regulation in cancer patients and highlight the importance of addressing emotion regulation and attachment in adapting to a cancer diagnosis.

Compared to secure attachment, insecure attachment is consistently associated with worse psychological outcomes, with or without overt life stress.²⁶ Studies on the relationship between attachment style and well-being have shown that insecure attachment is mainly associated with poorer adjustment and that secure attachment may be a protective factor during stress with emotion regulation skills.¹⁵ A study examining the relationship between attachment styles and psychosocial variables in cancer patients found a relationship between insecure styles and the mental symptoms seen in patients.¹⁴ Our results showed that perceived stress was higher in participants with an insecure style. This shows that healthcare professionals' awareness of attachment styles may improve

Table 4. Receiver Operating Characteristics Analysis for the Emotion Regulation Skills Scale and the Perceived Stress Scale

	AUC							95% CI of AUC	
	Area	Sen.	Spe.	SE	J	Cut Off	<i>P</i>	Lower Bound	Upper Bound
PSS	0.351	0.297	0.484	0.041	0.219	27.5	.001*	0.271	0.430
ERSQ	0.648	0.696	0.548	0.040	0.244	56.5	.001*	0.569	0.727

* $P < .05$. AUC, area under the curve; CI, confidence interval; ERSQ, emotion regulation skills scale; J, Youden index; PSS, perceived stress scale; SE, standard error; Sen, sensitivity; Spe, specificity.

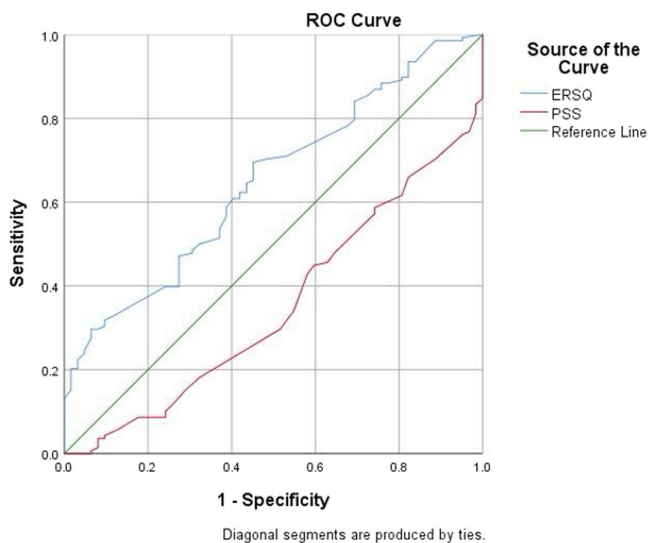


Figure 2. Receiver operating characteristics curve for the emotion regulation skills scale and perceived stress scale.

treatment outcomes. There is a need for large-sample and longitudinal studies to examine the correlation between stress associated with a cancer diagnosis and various attachment patterns.

The attachment system is closely related to how we perceive threats and respond to stress. The need for attachment increases during the long and unpredictable course of cancer. Experimental reports confirm the existence of a relationship between attachment styles and the types of responses to stress.²⁷ A study evaluating the correlation between attachment styles and patient-caregiver relationships in the terminal stage of cancer showed that a patient's attachment style affects their relationship with the caregiver.²⁸ A randomized controlled

study involving 198 recently diagnosed breast cancer patients and their partners showed that cancer-related distress decreased over time in patients and partners with attachment-focused interventions.²⁹ Our study found that most patients cohabitated with their spouses and children and had a minimum of 1 caregiver. Also, it has been revealed that those lacking a caregiver tend to exhibit higher levels of insecure attachment types. There is evidence that a person's perception of the availability of others as resources contributes significantly to the self-regulation of distress. Individuals with insecure styles believe that others cannot be trusted; therefore, they avoid asking for help and support.³⁰ A study examining attachment types in women with ovarian cancer revealed that those with an anxious attachment style experienced a delay in hospital admission.³¹ Incorporating identification and interaction with patients with insecure attachment styles into cancer symptom awareness training in health services may be beneficial.

It has been determined that negative emotions and the ability to regulate emotions against life events affect health quality and are associated with disease processes, such as cancer.³² During cancer treatment, it has been demonstrated that the establishment of a secure therapeutic relationship with attachment-based interventions can strengthen emotional regulation skills and reduce stress.³³ One study found that securely attached individuals were significantly less anxious and depressed than insecurely attached individuals and perceived more social support from their environment.³⁴ Insecure styles have been associated with higher psychosomatic and physical illness reporting and emotion-focused coping.³⁵ In a study conducted with caregivers of cancer patients, the relationship between mental symptoms and

Table 5. Insecure Attachment Style Predictors by Regression Analysis

	B	SE	Wald	P	Exp(B)	95% CI for EXP(B)	
						Lower	Upper
Type of cancer			9.993	.125			
Head and Neck	-0.970	0.782	1.539	.215	0.379	0.082	1.755
Gastrointestinal system	-0.411	0.542	0.576	.448	0.663	0.229	1.916
Lung	-0.456	0.570	0.639	.424	0.634	0.207	1.939
Urinary tract	-2.279	0.938	5.905	.015*	0.102	0.016	0.643
Breast	0.293	0.572	0.263	.608	1.341	0.437	4.113
Gynaecological	-0.996	0.635	2.455	.117	0.369	0.106	1.284
Metastatic	1.623	0.459	12.505	< .001*	5.069	2.062	12.465
PSS	0.050	0.021	5.593	.018*	1.051	1.009	1.095
ERSQ	-0.018	0.009	4.394	.036*	0.982	0.965	0.999
Constant	-1.547	1.032	2.247	.134	0.213		

Model $P < .001$

* $P < .05$ Logistic Regression. Variable(s) entered in step 1: Gender, marital status, type of cancer, living place, cohabitant status, metastatic, chemotherapy, radiotherapy, targeted therapy, chronic disease, psychiatric disease, PSS, and ERSQ.

CI, confidence interval; ERSQ, emotion regulation skills scale; Exp(B), odd ratio; PSS, perceived stress scale; Ref, adult attachment styles scale-insecure styles; SE, standard error.

attachment styles was examined, and it was concluded that ambivalent attachment predisposes caregivers to mental distress in caregivers.³⁶ It has been found that attachment insecurity predicts negative psychological outcomes and body image during the first year after surgery in women diagnosed with breast cancer.³⁷ Our study indicated that most patients displayed a secure attachment style. However, about half of the patients exhibited elevated levels of perceived stress. Our recent findings indicate a negative correlation between perceived stress and emotional regulation skills, which aligns with previous research.

Studies have shown that specific attachment styles are shaped by early experiences during times of distress, the extent to which attachment figures meet needs, and the extent to which patients can regulate the stress response and coping process.⁴ An important finding of our study was that the level of perceived stress and the ability to regulate emotions are indicators of insecure attachment styles. It was found that one-third of the participants had inadequate emotional management skills. The quality of the chronic coping style plays a role in health resilience and frailty outcomes.³⁸ If chronic maladaptive coping methods, such as a lack of emotion regulation skills, are not changed, physiological and immunological functions are affected, leading to health-related consequences.³⁹ In our study, more than half of the participants had chronic diseases other than cancer, and most had a psychiatric illness diagnosis. There was no significant difference between attachment styles and the presence of other chronic and psychiatric illnesses.

Study Limitations

The limitations of this cross-sectional study should be considered in future research. The inability to draw causal correlations between variables is a limitation of this study, which is mostly attributable to its cross-sectional design. Other limitations include the lack of a control group and the fact that some parameters that may influence the variables were not assessed. Augmenting the sample size would enhance the statistical power of the investigation.

Clinical Implications

This study's results could enhance our understanding of how perceived stress and emotion control mechanisms impact attachment styles, particularly in the context of a cancer diagnosis. Knowledge of phenomena such as attachment theory and emotion regulation strategies can assist health professionals in comprehending the psychodynamics of high-stress individuals and guiding their selection of stress-reduction techniques for cancer diagnosis and treatment.

Studies have shown that perceived stress and emotion regulation skills during the diagnosis of life-threatening diseases, such as cancer, affect health in terms of

attachment. Our results are consistent with the view that attachment plays a role in the lifelong relationship between stress and illness, and that emotion regulation skills can provide an accurate model of biopsychosocial development. Healthcare professionals should examine changeable personality factors soon after diagnosis to identify patients who are more vulnerable to mental health issues, provide personalized treatment, and decrease psychological distress. Awareness of attachment theory and the effects of different forms of insecure attachment in patients is essential for improving their ability to understand and meet their support needs. We believe that a broader, integrative, interdisciplinary approach to cancer will complement biomedical approaches to treatment.

Data Availability Statement: Data will be available at request.

Ethics Committee Approval: This study was approved by the Ethics Committee of Süleyman Demirel University (Approval No: 9/117, Date: 19 Apr 2022).

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