

Attachment style and perceived social support as predictors of biopsychosocial adjustment to cancer

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Background/aim: Social support is associated with a decrease in psychological symptoms and a better quality of life in cancer patients. The aim of this study was to investigate the role of attachment dimensions on social and psychological adjustment to cancer and to explore the social and psychological adjustments, and medical adherence, among patients.

Materials and methods: The study was conducted with 68 cancer patients, between 18 and 74 years of age. The measures taken were the Demographic Information Form, Multidimensional Scale of Perceived Social Support (MSPSS), Experiences in Close Relationships-Revised (ECR-R), and Psychosocial Adjustment to Illness Scale (PAIS-SR).

Results: The results showed that an avoidant attachment style was related to difficulties in social relationships and an increase in psychological distress following cancer diagnosis. People who perceive more social support orient to health care more easily than people who perceive less social availability. It was shown that a higher level of perceived social support has a positive impact in adjustment to family relationships and leads to experiencing less psychological distress than in people who perceived less social support.

Conclusion: Considering the complicated nature of cancer, a multi-perspective approach should be applied during the treatment process, and it is important to determine the psychosocial factors, and the causal pathways by which they lead to a better adjustment, in developing effective interventions.

Key words: Social support, cancer, anxiety disorders, depression, attachment

1. Introduction

Cancer is an overwhelming illness that leads to both physical difficulties and disruptions in many aspects of one's life. The process of dealing with and adapting to these changes could create a possible risk factor for psychological distress, which should be detected for early intervention, just as an early diagnosis is essential for a better prognosis of cancers (1). Psychiatric morbidity is an important risk factor among cancer patients (2). A considerable number of individuals develop psychiatric disorders including depression and anxiety disorders (3), which interrupt the treatment process and adherence to treatment requirements (4).

Based on the attachment theory, it was assumed that people high in the anxiety dimension and low in the avoidant dimension tend to rely on others heavily in times of stress, but perceived the available support as inadequate. In contrast, people high in the avoidant dimension and low in the anxiety dimension depend on themselves in times

of need, and emphasize the importance of independence and self-reliance. In a number of studies the impact of differences in attachment style on the sense of support has been reported. Considering the importance of supportive close relationships in overcoming a stressful life crisis such as cancer, the role of attachment style differences in determining social support perception has been recently investigated in cancer patients (5–7).

Numerous relevant studies indicate that social support was associated with a decrease in psychological symptoms (8) and a better quality of life in cancer patients. In Goldberg and Cullen's review it was asserted that, although inconsistent associations of demographic variables such as age, marital status, and sex were present, social support was reliably reported to have an important role in better adjustment to cancer (9–16).

The aim of this study was to investigate the role of the attachment dimensions on social and psychological adjustment to cancer. Besides investigating the mental

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adjustment to cancer, we also aimed to explore the social and psychological adjustment, and medical adherence among patients who were diagnosed with and/or ongoing cancer treatment. Our hypothesis was as follows: patients high on the anxiety dimension would perceive the available support as unsupportive and insufficient, and that patients high on the avoidant dimension would tend not to seek social support and would depend on themselves in adapting to the new changes in their lives following their cancer diagnosis.

2. Material and methods

2.1. Participants

The study was conducted with 68 cancer patients who were being followed up at the Oncology Department of Ankara University Medical Faculty.

The age of the participants ranged between 18 and 74 with a mean of 50.13 (SD = 1.52). There were 32 females (47.8%) and 35 males (52.2%). Of the participants, 50 did not work (74.6%). There were 55 married patients (80.9%), and 13 patients (19.1%) were single, divorced, or widowed. The education levels of the participants were as follows: 29 (33.3%) primary school, 19 (28.8%) high school, and 18 (27.2%) university and above. While 47 of the participants (69.1%) had no physical illness before the diagnosis of cancer, 21 of them (30.9%) had a physical illness such as hypertension, diabetes, cardiac disorders, or rheumatism. Only 3 (4.4%) had a psychological disorder. The time after the diagnosis of cancer ranged between 2 days and 12 years with a mean of 12.83 months (SD = 23.87).

2.2. Measures

2.2.1. Demographic Information Form

This form, prepared for the cancer patients, consisted of sociodemographic questions about the patient's age, sex, education level, employment, marital status, number of children, and duration of marriage. Moreover, it consisted of illness-related questions such as the illness and the treatment history, the time passed since the diagnosis of cancer, the presence of other physical and psychological illnesses, and whether they received any treatment for the illnesses.

2.2.2. Multidimensional Scale of Perceived Social Support (MSPSS)

For assessing perceived social support the MSPSS was used. It was developed by Dahlemet et al. and Zimet et al. (17,18) and adapted to Turkish by Eker and Arkar (19). For a Turkish sample, the Cronbach alpha coefficient was found as between 0.80 and 0.95 (20). It consists of 12 items and the person rates himself/herself on a 7-point scale ranging between 1 (very strongly disagree) and 7 (very strongly agree). The MSPSS provides information about 3 sources of social support, namely family, friends, and significant other.

2.2.3. Experiences in Close Relationships-Revised (ECR-R)

This was developed by Fraley et al. (21) and adapted to Turkish by Selçuk et al. (22). It consists of 36 items and the person rates himself/herself on a 7-point scale ranging between 1 (very strongly disagree) and 7 (very strongly agree). This scale has 2 subscales related to attachment-related anxiety and attachment-related avoidance. In the current study the Cronbach alpha for the attachment-related anxiety subscale was found as 0.86 and for the attachment-related avoidance subscale as 0.90.

2.2.4. Psychosocial Adjustment to Illness Scale (PAIS-SR)

This scale was developed by Derogatis (23) to assess how the patient adjusts to an illness psychosocially. It is a self-reporting scale that consists of 46 items evaluating 7 aspects of social adjustment, namely health care orientation, vocational environment, domestic environment (core family relations), sexual relationships, social environment, extended family relationships, and psychological distress. Every item in this scale is rated on a 4-point Likert-type scale (from 0 to 3). The higher scores in each domain demonstrate a lower adjustment of the patient. The Turkish adaptation of the questionnaire was produced by Adaylar (24) and found reliable and valid for Turkish samples.

2.3. Procedure

This study was conducted by the Consultation Liaison Psychiatry Department in the Outpatient Oncology Treatment unit at the Cebeci Hospital of Ankara University Faculty of Medicine between January 2012 and June 2012. All the patients (n = 68, ages between 18 and 65 years) were informed of the study protocol and their informed consent and permission to access their medical records were obtained. The study protocol was approved by the Ethics Committee of Ankara University Faculty of Medicine, in December 2011.

The patients who presented to the Oncology Department were contacted by psychologist's referral. According to the referral, trained psychology students collected the data from patients in the waiting rooms of the clinics, or the rooms where the patients received treatment. The data collectors explained the nature of the study and only volunteers were included in the study. Then the self-report questionnaire sets was given to the patients. The data collectors were on-hand to answer any questions. Nonetheless, some participants had a low education level and the questionnaires were administered to them orally, and the answers were coded. Filling out the questionnaire sets took approximately 30 min.

3. Results

Prior to the analyses, the data were checked for accuracy and missing values. Normality assumptions were generally met; however, cases that included more than

10% missing in a certain scale were excluded from the analyses. It was observed that 2 subscales of the PAIS (i.e., sexual relationships and vocational environment) consisted of more than 15% missing values (36.7% and 17.6%, respectively); therefore these scales were excluded from the main analyses and only 5 subscales of the PAIS were computed (i.e. health care orientation, domestic environment, extended family relationships, social environment, and psychological distress).

According to the results, where 3 separate multivariate analysis of variances (MANOVA) were conducted to investigate whether 3 groups (low, medium, high) of social support, anxious attachment, and avoidant attachment differed in terms of psychological adjustment to illness, a significant main effect was obtained for social support, multivariate $F(10, 122) = 3.08$, $P < 0.01$, $\eta^2 = 0.20$, Wilk's lambda = 0.64. When the univariate analyses with Bonferroni correction (P value = $0.05/5 = 0.01$) were examined, a significant result was observed for health care orientation, $F(2, 65) = 57.20$, $P < 0.01$, indicating that participants who reported a low level of social support ($M = 7.82$) indicated higher levels of maladjustment to health care orientation when compared to participants who reported medium ($M = 5.76$) and high levels of social support ($M = 4.77$). However participants who reported medium and high levels of social support did not differ from each other in regard to maladjustment to health care orientation. Similarly, a significant result was obtained for domestic environment, $F(2, 65) = 127.21$, $P < 0.001$, indicating that participants who reported low level of social support ($M = 7.53$) indicated higher levels of maladjustment to domestic environment when compared to participants who reported medium ($M = 4.27$) and high levels of social support ($M = 3.05$). However participants who reported medium and high levels of social support did not differ from each other according to maladjustment to domestic environment. Finally, a significant result was observed for psychological distress, $F(265) = 76.76$, $P < 0.01$, indicating that participants who reported low ($M = 6.21$) and medium levels of social support ($M = 4.76$) indicated higher levels of psychological distress when compared to participants who reported high level of social support ($M = 2.60$). However, participants who reported low and medium levels of social support did not differ from each other according to psychological distress (Table 1, A).

In terms of attachment, MANOVA results did not yield a significant result for anxious attachment (Table 1, B). However the main effect of avoidant attachment was significant, multivariate $F(10, 122) = 2.57$, $P < 0.01$, $\eta^2 = 0.17$, Wilk's lambda = 0.68. Univariate analyses with Bonferroni correction revealed a significant result only for social environment, $F(2, 65) = 6.16$, $P < 0.01$, indicating that participants who reported a low level of avoidant attachment

($M = 5.47$) reported lower levels of maladjustment to the social environment when compared to participants who reported medium ($M = 8.91$) and high levels of avoidant attachment ($M = 10.50$). However, participants who reported medium and high levels of avoidant attachment did not differ from each other according to maladjustment to social environment (Table 1, C).

In order to better investigate the explanatory power of social support and attachment on psychological adjustment to illness, a series of hierarchical regression analyses were conducted where the subscales of PAIS were dependent variables entered separately in each analysis. Attachment dimensions (i.e. anxious and avoidant attachment) were entered in the first step and social support was entered in the second step.

Taking into account health care orientation, attachment was found to explain 7% of the variance; however, the result was not significant. Moreover, when social support was entered into the regression equation, the explained variance increased to 12%, but this increase was also not significant, indicating that attachment dimensions and social support failed to explain health care orientation (Table 2, A).

Considering domestic environment, attachment was found to explain 8% of the variance; however, the result was not significant. On the other hand, when social support was entered into the regression equation, the explained variance significantly increased to 38%, F change $(1, 64) = 31.21$, $P < 0.001$. Furthermore, a significant negative association was observed between social support and domestic environment ($\beta = -0.55$, $\beta = -0.60$, $t[64] = -5.59$, $P < 0.001$), indicating that participants who reported higher levels of social support indicated lower levels of maladjustment in domestic environment (Table 2, B).

Taking into account extended family relationships, attachment was found to explain 5% of the variance; however, the result was not significant. Moreover, when social support was entered into the regression equation, the explained variance increased to 11%, but this increase was also not significant, indicating that attachment dimensions and social support failed to explain extended family relationships (Table 2, C).

Considering social environment, attachment was found to significantly explain 16% of the variance, $F(2, 65) = 6.11$, $P < 0.01$. Moreover, a significant positive relationship was obtained between avoidant attachment and social environment ($\beta = 0.35$, $\beta = 0.36$, $t[65] = 3.09$, $P < 0.01$), indicating that participants who reported higher levels of avoidant attachment indicated higher levels of maladjustment in social environment. When social support was entered into the regression equation in the second step, the explained variance increased to 19%, but this increase was not significant (Table 2, D).

Table 1. MANOVA results of social support, anxious attachment, and avoidant attachment in terms of psychological adjustment to illness.

Scale	Multi. F	df	η^2	ω	Uni. F	df	Low	Medium	High
A. Social support	3.08*	10,122	0.20	0.64					
Health care orientation					57.20*	2,65	7.82a	5.76b	4.77b
Domestic environment					127.21**	2,65	7.53a	4.27b	3.05b
Extended family rel.					3.57	2,65	2.72	2.13	1.99
Social environment					35.61	2,65	9.65	7.31	7.82
Psychological distress					76.76*	2,65	6.21a	4.76a	2.60b
B. Anxious attachment	1.16	10,122	0.09	0.83					
Health care orientation						2,65	5.15	6.52	6.88
Domestic environment						2,65	3.44	4.93	6.80
Extended family rel.						2,65	1.66	2.50	2.72
Social environment						2,65	6.92	8.50	9.52
Psychological distress						2,65	3.28	5.11	5.34
C. Avoidant attachment	2.57*	10,122	0.17	0.68					
Health care orientation						2,65	5.33	6.87	6.36
Domestic environment						2,65	3.44	6.86	4.86
Extended family rel.						2,65	1.81	2.28	2.79
Social environment						2,65	5.47a	8.91b	10.50b
Psychological distress						2,65	2.85	5.26	5.59

Note: ** $P < 0.001$, * $P < 0.01$. The mean scores that do not share the same subscripts on the same row are significantly different from each other. *Abbreviations; rel: relationships.*

Finally, in terms of psychological distress, attachment was found to significantly explain 17% of the variance, $F(2, 65) = 6.56$, $P < 0.01$. Moreover, a significant positive relationship was obtained between avoidant attachment and psychological distress ($\rho = 0.36$, $\beta = 0.37$, $t[65] = 3.15$, $P < 0.01$), indicating that participants who reported higher levels of avoidant attachment indicated higher levels of psychological distress. When social support was entered into the regression equation in the second step, the explained variance significantly increased to 29%, $F \text{ change}(1, 64) = 10.53$, $P < 0.01$. Furthermore, a significant negative association was observed between social support and psychological adjustment ($\rho = -0.34$, $\beta = -0.37$, $t[64] = -3.24$, $P < 0.01$), indicating that after controlling for attachment, participants who reported higher levels of social support indicated lower levels of psychological distress (Table 2, E).

4. Discussion

The results of this study showed that an avoidant attachment style was found to be related to difficulties in social relationships and an increase in psychological distress following a cancer diagnosis. Considering the conceptualization of avoidant attachment style as a fear

of intimacy and lack of interest in social relationships (25), it is reasonable to expect that avoidant people would experience difficulties in maintaining social relationships during the treatment process.

Moreover, avoidant people were found to have difficulty in regulating their emotions while handling such an overwhelming treatment process. In the literature, it was indicated that attachment insecurity may lead to excessive use of maladaptive affect regulation strategies resulting in experiencing negative moods (26). Avoidant people generally regulate their negative emotions by deactivating attachment related clues and heavily relying on their own resources. Consequently, they maintain a positive self-view about themselves and conceal their weakness (5). Under the stress condition avoidant people, because of their distrust of significant others in terms of providing support, would distance themselves from significant others and try to cope with the distress using their own resources (27). Avoidant people try to comfort themselves by depending excessively on their self-resources in the face of stress (6). They use "nondifferentiated defensiveness" to prevent them from relating to other people and to maintain distance from them emotionally (28). They tend to suppress the need

Table 2. Summary of the regression models.

DV	IV	df	F	β	t	pr	R ²
A. Health care orientation	Attachment	2, 65	2.50				0.07
	Anxious			0.11	0.85	0.10	
	Avoidant			0.22	1.80	0.22	
	Social support	1, 64	2.78	-0.23	-1.78	-0.21	0.12
B. Domestic orientation	Attachment	2, 65	2.87				0.08
	Anxious			0.20	1.63	0.19	
	Avoidant			.16	1.31	0.16	
	Social support	1, 64	13.21**	-0.60	-5.59**	-0.55	0.38
C. Extended family rel.	Attachment	2, 65	1.71				0.05
	Anxious			0.11	0.84	0.10	
	Avoidant			0.17	1.39	0.17	
	Social support	1, 64	2.53	-0.26	-2.0	-0.24	0.11
D. Social environment	Attachment	2, 65	6.11*				0.16
	Anxious			0.10	0.84	0.10	
	Avoidant			0.36	3.09*	0.35	
	Social support	1, 64	5.12*	-0.21	-1.67	-0.19	0.19
E. Psychological distress	Attachment	2, 65	6.56*				0.17
	Anxious			0.11	0.98	0.11	
	Avoidant			0.37	3.15*	0.36	
	Social support	1, 64	8.52**	-0.37	-3.24*	-0.34	0.29

Note: **P < 0.001, *P < 0.01. Abbreviations; rel: relationships.

to seek proximity, especially in the face of any separation threats, by preventing the representations of attachment figures from becoming conscious (7). However, experiencing a disease like cancer could create more emotional pressure, which requires using more adaptive affect regulation strategies. A cancer diagnosis also has detrimental effects on the self-view and could increase feelings of vulnerability (29). Thus, although avoidant people cope with distressing feelings by defensively ignoring personnel weakness, their defensive strategies may not be enough to restore their inadequacy feelings following the cancer diagnosis.

However, we could not find any relationship between anxious attachment style and adjustment to the cancer. This is an interesting result when the literature is reviewed.

In the present study, it was found that people who perceive social support as more available tend to more easily orient to health care than people who perceive social support as less available. In the literature, it was shown that social support increases one's adherence to the treatment. For example, in a review by DiMatteo (30), it was concluded that despite the differences in patient's age, variability in sample size, treatment strategies, and various

disease conditions a consistent association was found between social support and adherence to treatment.

According to the findings, perceived social support has a positive impact in adjustment to family relationships. In other words, people who perceived more social support experienced less difficulty in maintaining their family relationships. Moreover, this result could show that when people have a feeling about others' availability in times of stress, they could also overcome communication problems that became apparent following a cancer diagnosis.

In the present study people who perceived more social support would experience less psychological distress than people who perceived less social support. The role of social support in alleviating psychological distress following distressful events was reported consistently in the literature (31). In the present study, extended family relationships could not be explained by either attachment style or perceived social support. This result is reasonable in the sense that perceiving social support, especially from significant others rather than relatives, could be effective in adapting to distressful events. In the present study, we could not find any mediating effect of the perceived social support. This finding could be interpreted as meaning

that more specific mediators for attachment anxiety and avoidance should be investigated. For example Wei et al. (32), showed the mediator effects of social efficacy for anxious attachment, and emotional awareness for attachment avoidance, on psychological distress and perceived social support.

This study has a number of limitations. Firstly, it did not investigate the role of the type of support (emotional, informational, or instrumental) in adjustment to cancer. In a number of studies, emotional support from close family members is considered the most effective support if it is available in the adjustment process, whereas its absence has detrimental implications. Furthermore, it is more likely than other support types to be considered inadequate. In the literature it was frequently demonstrated that emotional support was found to be related to better adjustment. The second limitation of the study is about its cross-sectional

nature, which makes it difficult to infer causal links about the possible mechanisms through which perceived social support leads to better adjustment to cancer. Furthermore, in this study, patients in different stages of cancer treatment have been included. Considering the time range since diagnosis between patients varied widely (mean time since diagnosis was found to be between 2 days and 12 years), it is difficult to generalize these findings to cancer patients at different stages. In different stages of cancer treatment, social support may have different effects on patients' biopsychosocial adjustment to cancer.

In conclusion, considering the complicated nature of cancer, a multi-perspective approach should be applied during the treatment process. As it is important to determine the psychosocial factors and the causal pathways by which they lead to a better adjustment in developing effective interventions, future studies must be conducted.

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