

The association between individual attachment patterns, the perceived social support, and the psychological well-being of Turkish informal caregivers

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Abstract

Background: This study aimed to investigate the relations among the psychological well-being (i.e. depression and state/trait anxiety levels), attachment patterns (i.e. secure, ambivalent, avoidant), and the perceived social support from family/friends/significant others of caregivers of cancer patients in Turkey.

Methods: Fifty-one caregivers of adult cancer patients were recruited from the oncology outpatient clinic of the Marmara Medical School Hospital in Istanbul. Caregivers were assessed with the Adult Attachment Scale, the Beck Depression Inventory, State–trait Anxiety Inventories, and the Multidimensional Scale of Perceived Social Support.

Results: Stepwise multiple regression analysis indicated that depression was predicted by ambivalent attachment and the perceived social support from family. The support from significant others was the significant predictor of trait anxiety and the caregivers' ambivalent attachment score was the significant predictor of state anxiety.

Conclusions: We assert that ambivalent attachment pattern could confer a vulnerability to psychological distress in cancer caregivers. Assessing the psychological experiences and needs of caregivers and being aware of possible risk factors (such as attachment patterns) and protective factors (social support network) for depression and anxiety might be helpful for successful programmes and interventions that support the caregivers of cancer patients.

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Introduction

Cancer care provided within home environment is usually provided by spouses, siblings, children, relatives, and friends of the cancer patients. These individuals play a substantial role in meeting the practical, emotional, and even nursing care needs of their relatives without being paid [1,2]. They are usually referred to as 'informal caregivers' [1]. Research shows that informal caregivers of cancer patients experience high levels of emotional burden and psychological stress during caregiving [3]. One study showed that cancer patients had more unmet care needs when their family caregivers experienced strain and burden of care [4]. Caregivers who had emotional or physical stress related to caregiving reported psychological and emotional problems [5]. Informal caregiving is much more burdensome and stressful in countries such as Turkey where formal

palliative care resources and support networks are limited. Therefore, the correlates of and factors underlying the psychological well-being of caregivers of cancer patients are important subjects of study for those studying caregivers in oncology settings [5,6]. The interpersonal caregiving experiences of the caregivers are found to play a role in the psychological and affective outcomes of caregiving [7–11]. Carpenter [12] pointed out that the emotional bonding ('attachment') pattern of caregivers in their relationships with significant others is important in shaping both their subjective caregiving experiences and their psychological well-being.

Attachment as a framework in care

According to attachment theory, during the early years of life, an emotional bond ('attachment') develops within the context of the early dyadic

interactions between infants and their primary caregivers [13]. Bowlby [13] argued that this early attachment towards the primary caregivers influences how individuals perceive themselves in relation to others as well as their abilities to form and maintain new emotional bonds with others later in life. Attachment towards caregivers (i.e. mothers) influences later interpersonal expectations, emotions, and behaviours towards significant others [14]. There are three main patterns of emotional bonding: secure, anxious-ambivalent, and avoidant [14]. Individuals with secure attachment patterns are comfortable with their loved ones and reciprocal in their relations. They value their attachment relationships [15] and feel competent in their ability to regulate affect in stressful situations with others [16], unlike people with insecure attachment style. Anxious-ambivalent and avoidant attachment patterns are called insecure attachment patterns. Anxious-ambivalent people are clingy in their relations, while avoidant people eschew any intimate and close relations with others.

Bowlby argued that these attachment patterns shape one's future caregiving style towards his or her own children and significant others who need care (i.e. patients) [13]. When a significant other is distressed, an individual's caregiving system is activated through the attachment system [17]. Secure attachment provides a 'solid and stable psychological basis' [17, p. 818] on which someone relies to help ease the suffering of a significant other and to provide care to him or her. Researchers reported that caregiving and helping behaviour are related to the security of attachment relationships, a finding that was found to be consistent across culturally different countries [17]. Therefore, attachment is an important framework in which to understand the subjective caregiving experiences in Turkey. Data are limited on the subjective experiences of Turkish informal caregivers in the oncology setting. For that reason, we utilized in the current study an attachment framework to understand the caregiving experiences (the psychological well-being and the perceived social support) of informal caregivers of cancer patients in Turkey.

Attachment and the psychological well-being

Bowlby [13] suggested a close relation between early attachment patterns and later psychopathology. Attachment patterns are found to influence individuals' distress tolerance in highly stressful life situations, such as during important psychosocial changes in one's life (e.g. becoming a caregiver to an ill significant other) [18–22]. The caregivers' sense of strain due to providing care to a cancer patient was found to be related with the attachment style of the caregiver [23]: insecurely attached

individuals had difficulties especially in providing emotional care to the cancer patient. It was argued that people with insecure bonding patterns cannot tolerate the increased level of negative affect that occurs in stressful life events. Empirical findings, in accordance with these claims, have indicated that secure attachment patterns negatively correlate and that insecure attachment patterns of caregivers positively correlate with psychological distress, depression [12,20,24,25], and anxiety [20]. Clinical depression and high levels of depressive symptoms were consistently reported for insecurely attached subjects [20,21].

Perceived social support and psychological well-being

Aside from attachment pattern, another factor that is linked with the psychological well-being of caregivers is perceived social support. Perceived social support consists of one's cognitions about the availability of support and satisfaction with the supportive relationships [26]. Other family members, friends, and acquaintances usually support caregivers and care nurses in domestic and hospital care settings. How caregivers evaluate support network systems is as important as the actual support received by others. Several studies found a negative relation between perceived social support measures and psychological stress: people who were satisfied with the quality and the quantity of the support from the environment experienced less physical and psychological stress than those who were not satisfied [27,28]. Moreover, caregivers who perceived higher support from others were more subjectively satisfied with their life compared with those who evaluated the supportive network as poor [29]. Thus, perceived social support is related to the psychological well-being outcomes of caregivers.

This study aimed to investigate the relation between psychological well-being (i.e. depression and anxiety levels) and attachment patterns and the perceived social support in the caregivers of cancer patients in Turkey. In light of past literature [12,20,24,25,29], we anticipated that psychological well-being measures (i.e. depression, state/trait anxiety) would (1) negatively correlate with secure attachment and perceived social support dimensions and (2) positively correlate with ambivalence and avoidant attachment. We further hypothesized that secure attachment and perceived social support dimensions would significantly predict lower scores in depression and anxiety measures in multiple regression models. Whereas, ambivalent and avoidant attachment patterns were anticipated to be significant predictors of higher depression and anxiety levels [27,28].

Method

Participants

Subjects were a convenient sample of 51 caregivers of cancer patients who were recruited from the oncology outpatient clinic in the Marmara University Hospital, Istanbul, Turkey. Caregivers included in this study (1) were regularly providing volunteer care to their adult cancer patient at home or in the hospital for at least 6 months (by managing the symptoms/pain of the patient at home, giving personal care, supporting the patient in the house and hospital/bureaucratic settings, and providing emotional support); (2) were not receiving any financial support for their caregiving work; and (3) were 18 or older and played a key role in daily contact with physicians. Using these criteria, oncology physicians and nurses informed 73 caregivers about the study during their routine visits to the outpatient clinic within a 6-month data collection period. They were provided with information on the aim/scope/procedure of the study and the contact details of the research team. Forty-three female and eight male volunteer caregivers contacted us and agreed to participate in the study. We present demographic characteristics of these caregivers and their patients in Table 1.

Measures

Marmara Caregiver Assessment Interview in Oncology

Based on a literature review and on our previous clinical observations in the oncology outpatient unit, we developed this semi-structured interview to

Table 1. Demographic characteristics of the cancer patients and their informal caregivers ($n = 51$)

Characteristics	Frequency	Percentage (in %)
<i>Patients</i>		
Sex, female	28	54.9
Marital status, married	36	72.0
<i>Cancer type</i>		
Colon and rectum	10	19.6
Lung	8	15.7
Breast	5	9.8
Lymphoma	5	9.8
Others	23	48.1
<i>Caregivers</i>		
Sex, female	43	84.3
Marital status, married	37	72.5
<i>Education level</i>		
Elementary school	27	52.9
High school ^a	24	47.1
<i>Proximity to patient</i>		
Partner	19	37.3
Child	18	35.3
Sibling	7	13.7
Relative/friend	7	13.7

^aThe frequency of subjects who had high school, college, master, or doctorate degree.

obtain general knowledge on the context of caregiving. The interview assesses age, gender, level of education, relationship status, and duration of caregiving.

Adult Attachment Scale (AAS)

AAS [19] served as the measure of caregivers' attachment style. It was developed by Collins and Read [30] and translated into Turkish by Alp (Alp I. E., unpublished data, 1998). This self-report scale assesses secure and insecure (anxious-avoidant and anxious-ambivalent) adult attachment styles. The Turkish version includes six statements for each bonding pattern (i.e. secure, avoidant, ambivalent). Respondents rate these sentences on a 4-point Likert-type scale according to the suitability of items for the respondents' relationships with significant others. Each subject gets three attachment scores corresponding to the three styles.

Beck Depression Inventory, Second Edition

The presence and intensity of cognitive, affective, and somatic symptoms of depression were assessed with Beck Depression Inventory, Second Edition (BDI-II) [31]. BDI-II was developed by Beck *et al.* [30]. It is a 21-item self-report inventory. Hisli [32] translated BDI into Turkish and tested its validity and reliability. In the Turkish sample, Cronbach's alpha was reported as 0.80 and the split-half reliability was 0.74 [32]. On the measure, respondents are asked to choose the most suitable statement that explains their situation for the previous week. Each item in the test is scored on a scale ranging from 0 to 3. The total score ranges between 0 and 63, with higher scores representing higher degrees of depressive symptomatology. According to its cut-off scores [31], a score of 10 or less represents mild depression, scores between 10 and 18 represent moderate depression, and those between 19 and 29 point to moderate to severe depression (19–29). Scores that are higher than 29 indicate severe depression in subjects [32]. Hisli [32] found that BDI scores equal to and higher than 17 correctly identified 90% of clinical depression cases.

State–trait Anxiety Inventory

The State–trait Anxiety Inventory (STAI) [33] was used to measure levels of state and trait anxiety in caregivers. Spielberger *et al.* [33] developed the STAI, which was translated into Turkish and validated by LeCompte and Öner [34]. The Kuder Richardson reliability coefficient of the Turkish version was found to range between 0.83 and 0.92 for state anxiety and between 0.86 and 0.92 for trait anxiety. Its content validity was supported in the experimental research of Öner [35], who argued

that the Turkish version of STAI has good reliability and validity and appropriate for use in Turkish samples. The STAI has two subtests to measure state and trait anxiety, each of which contains 20 statements. The state anxiety subtest assesses how the respondent feels in several given conditions within that moment, whereas trait anxiety test measures how he or she 'generally' feels independent of his or her current situation. Respondents rate each item on a 4-point Likert-type scale, which ranges between 1 ('not at all'/'almost never') and 4 ('very so much'/'almost always'). The total score for each subtest is between 20 and 80. Higher anxiety scores correspond with higher levels of anxious feelings.

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) [36] was used as a measure of the caregiver's perceived social support from family, friends, and significant others. It has three subscales, each of which includes four statements that are scored on a 7-point Likert scale (from '1—very strongly disagree' to '7—very strongly agree'). Higher scores reveal higher perceptions of social support, which are available and/or received from others. Eker and Arkar [37] translated the measure to Turkish and provided validity and reliability information. Cronbach's alpha of the test ranged between 0.80 and 0.95 [36]. The factor structure of Turkish version of MSPSS was similar to those found in studies with Western populations [38] and it was argued that these three social support items could be generalized to the Turkish population.

Procedure

Fifty-one volunteer participants were invited to complete an interview during one of their routine visits to the oncology outpatient clinic. All participants provided signed informed consent. To ensure confidentiality, subjects were given an identification number, which was used in interview

materials and on self-report instruments. The interviews (i.e. Marmara Caregiver Assessment Interview in Oncology) were performed by two trained research assistants in a private room of the chemotherapy unit that was specifically designated for these interviews. Each interview lasted approximately 10–15 min. Following the interview, a package of self-report instruments, including the BDI-II, STAI, MSPSS, and AAS, were given to subjects in counter-balanced order.

Analysis

In univariate analyses, *t*-tests were used for the comparison of mean scores for categorical data (i.e. demographics) and Pearson correlations were used for continuous data (i.e. scale scores). To assess how much of the variance in the severity of depression or anxiety was explained by attachment and social support variables, stepwise regression analyses were conducted. All tests were two-tailed.

Results

The mean scores of depression, state anxiety, and trait anxiety were 13.82 (SD = 9.53), 44.04 (SD = 4.91), and 45.57 (SD = 5.81), respectively. Based on the cut-off scores of the BDI [30,31], we found that 16 subjects (31.40%) had mild depression scores (<10), 22 subjects (43.10%) had moderate depression scores (10–18), 9 subjects (17.60%) had moderate to severe depression (19–29), and 4 (7.90%) reported severe depression (>29). Eighteen caregivers (35.40%) scored 17 (or higher), which represented the risk for clinical depression [32].

We compared depression/state anxiety and trait anxiety levels of caregivers regarding gender, marital status, and education levels. Results indicated no significant difference between female and male caregivers, or married and single caregivers, in terms of depression and anxiety measures (see Table 2). Caregivers who had an elementary

Table 2. The comparison of the mean scores of depression, state anxiety, and trait anxiety measures of caregivers in terms of their gender, marital status, and education level

	Depression			State anxiety			Trait anxiety		
	M (SD)	t	p	M (SD)	t	p	M (SD)	t	p
Gender									
Female	13.98 (5.07)	0.04	0.96	43.95 (5.07)	-0.76	0.45	45.80 (5.98)	-1.13	0.27
Male	13.50 (10.28)			44.50 (4.21)			44.50 (5.13)		
Marital status									
Married	13.94 (10.01)	0.05	0.96	43.54 (4.94)	-1.13	0.27	45.18 (5.13)	-0.76	0.45
Unmarried	13.79 (9.67)			45.29 (4.76)			46.62 (7.46)		
Education level									
Elementary school	17.23 (9.98)	2.73	0.009	44.52 (5.89)	0.69	0.49	47.92 (6.04)	3.07	0.004
High school ^a	9.95 (8.23)			43.54 (3.68)			43.13 (4.51)		

^aHigh school, college, master, or doctorate degree.

school education level had a higher depression level ($M = 17.23$, $SD = 9.98$) compared with caregivers who had at least a high school degree ($M = 9.96$, $SD = 8.23$), $t(47) = 2.73$, $p < 0.01$. There was a significant difference between these groups in terms of trait anxiety, $t(47) = 3.07$, $p < 0.005$. The former group had a higher trait anxiety score ($M = 47.92$, $SD = 6.04$) than the higher education group ($M = 43.13$, $SD = 4.51$). The age of the caregivers and duration of care did not significantly correlate with depression or state/trait anxiety.

The Pearson correlation coefficients were computed to assess the relationship between depression, anxiety, attachment, and social support measures (see Table 3). We found that depression had significant and positive correlations with ambivalent attachment ($r = 0.62$, $p < 0.001$) and avoidant attachment ($r = 0.31$, $p < 0.05$), support from significant others ($r = -0.56$, $p < 0.001$), support from family ($r = -0.44$, $p < 0.01$), and support from friends ($r = -0.32$, $p < 0.05$).

Trait anxiety was positively correlated with ambivalence ($r = 0.60$, $p < 0.001$) and avoidant attachment ($r = 0.29$, $p < 0.05$). It negatively correlated with support from significant others

($r = -0.61$, $p < 0.001$), support from friends ($r = -0.57$, $p < 0.001$), and support from family ($r = -0.34$, $p < 0.05$). State anxiety demonstrated positive correlations with ambivalent attachment ($r = 0.41$, $p < 0.01$) and avoidant attachment ($r = 0.34$, $p < 0.05$). It had significant and negative correlation with support from significant others ($r = -0.37$, $p < 0.01$). It did not have significant correlation with support from friends or support from family members. State anxiety, trait anxiety, and depression did not show any significant correlation with secure attachment.

Multivariate analyses

Stepwise multiple regression analyses were conducted: Depression/state anxiety and trait anxiety were each regressed on attachment (i.e. secure, ambivalence, avoidance) and perceived social support (i.e. support from family, friends, significant others) measures (see Table 4). Results indicated that the first predictor of depression was ambivalent attachment, followed by support from family. Ambivalent attachment positively predicted and support from significant others negatively pre-

Table 3. Descriptive data and the Pearson correlations among depression, state–trait anxiety, attachment scores, the perceived social support scores, age of caregivers, and duration of care

Variables	Mean (SD)	Support								Age of caregiver	
		Depression	State anxiety	Trait anxiety	Support from family	Support from sign. others	Support from friends	Secure attachment	Ambivalence		Avoidance
Depression	13.90 (9.80)										
State anxiety	44.04 (4.91)	0.07									
Trait anxiety	45.57 (5.82)	0.72***	0.18								
Support from family	23.18 (5.45)	-0.44**	-0.11	-0.34*							
Support from sign. others	22.84 (6.26)	-0.56***	-0.37**	-0.61***	0.57***						
Support from friends	23.51 (4.96)	-0.32*	0.04	-0.57***	0.42**	0.54***					
Secure attachment	15.92 (3.27)	-0.19	-0.08	-0.16	0.24	0.36*	0.07				
Ambivalence	7.76 (2.97)	0.62***	0.41**	0.60***	-0.35*	-0.75***	-0.38**	-0.31*			
Avoidance	12.08 (2.86)	0.31*	0.34*	0.29*	-0.10	-0.41**	-0.28*	-0.25	0.55***		
Age of caregiver	42.18 (11.13)	-0.17	-0.18	-0.26	0.48***	0.45***	0.28*	0.07	-0.21	-0.02	
Duration of care	11.77 (11.28)	-0.00	-0.17	-0.12	-0.12	0.09	0.09	-0.07	-0.04	-0.32*	0.20

* $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$.

Table 4. Summary of stepwise regression analyses of attachment dimensions, perceived social support dimensions on depression, trait anxiety, and state anxiety

	B	SE	t	p	95% Confidence interval		R ²	F	p
					Upper bound	Lower bound			
Depression									
(Constant)	11.50	6.72	1.71	0.095	-2.10	25.10	0.47	17.30	0.001
Ambivalence	1.78	0.40	4.44	0.000	0.97	2.59			
Support from family	-0.52	0.22	-2.41	0.021	-0.96	-0.08			
Trait anxiety									
(Constant)	58.20	2.63	22.09	0.000	52.88	63.53	0.38	24.68	0.001
Support from sign. others	-0.56	0.11	-4.97	0.000	-0.79	-0.33			
State anxiety									
(Constant)	38.35	1.91	20.10	0.000	34.50	42.20	0.19	9.64	0.003
Ambivalence	0.70	0.23	3.10	0.003	0.24	1.15			

dicted depression. They explained 47% of depression scores. Another analysis with the trait anxiety criterion showed that the perceived social support from significant others negatively predicted trait anxiety, and it explained 38% of that trait anxiety. Finally, state anxiety was regressed on attachment and social support measures. The caregivers' ambivalent attachment score was the only significant independent variable to predict state anxiety positively and it explained 19% of that state anxiety.

Discussion

It was argued that insecure attachment styles (i.e. ambivalent attachment and avoidant attachment) make caregivers vulnerable to the multiple stresses of caregiving, which might lead them to depression and anxiety problems [22,23]. Caregivers who had ambivalent or avoidant attachment patterns were found to have depression or anxiety problems [24]. Similarly, we found that the ambivalent attachment pattern of caregivers is the most significant predictor of depression and state anxiety of caregivers in oncology clinic. This result supports the findings of our previous study conducted on mothers with postpartum depression [39]: maternal depressive symptoms at early postpartum period were significantly predicted only by ambivalent attachment scores of mothers. In another study, ambivalent attachment was the only significant contributor to depression [40]. In contrast to past findings [24,25], we found that avoidant attachment was not a significant predictor of depression or anxiety. However, in one study, avoidant attachment style was not related to depression scores in pathway analysis [41]. Similarly, Kuscü *et al.* [39] reported that postpartum depression was not predicted by avoidant attachment scores of mothers. Caregivers with ambivalent orientation cling to their significant other/patient and engage in compulsive and controlling caregiving [42]. They

have ambivalent emotions/cognitions, such as fear of losing the significant other and, at the same time, fear of being rejected by her/him [43]. They emotionally over-involve in the caregiving process: in an earlier study it was shown that they provide excessive emotional support to their patients regardless of the support actually required by the patients [42]. In Turkey where interdependence with significant others is valued, this emotional over-involvement and interdependence with significant others might highly exacerbate negative caregiving experiences and emotional burden. Whereas, caregivers with avoidant attachment style tend to withdraw themselves from emotionally loaded situations/conditions in an effort to deal with their anxiety and tend to avoid any situation that involves interdependence or caregiving. Feeney and Collins [42] found that these caregivers are unresponsive to the needs of their patients: they provide low levels of emotional support to their significant other, especially when the patient needs high levels of emotional support from them. They seem not to be emotionally involved in caregiving and not committed to the patient. Avoidant attachment patterns might not be a 'caregiver' stance, especially in Turkey where family ties and interdependence with significant others are valued. These caregivers might not involve themselves specifically in the emotional burden of caregiving and thus they might not suffer from psychological problems such as depression or anxiety in cancer caregiving in Turkey. Further studies are needed to reveal the cultural mediating factors between ambivalent attachment orientation and low levels of psychological well-being of caregivers in Turkey.

Supportive network systems might help caregivers deal with caregiving burdens and daily stresses, and thus might make them more resilient to psychological problems [44]. Caregivers who perceive high levels of support from the social network systems are found to have low levels of depression and anxiety [12,21,25,26,30]. We found that perceived support from family and support

from significant others are, respectively, significant predictors of depression scores and trait anxiety scores. Caregivers' positive perception on the availability and adequacy of the supportive relationships with their family members or significant others was related to a low depression/trait anxiety level. This is partly in accordance with our previous finding [39]: mothers who perceived higher support from their family members had lower depression scores. Perceived support from friends had significant correlations with depression and trait anxiety, but it was not found to be a significant predictor of well-being measures, similar to the finding of Kuscu *et al.* [39]. Supportive relationships with friends might not have been as important as support from family members and significant others for caregivers in Turkey. It was argued that the perceived social support from family members and significant others is particularly important in the health outcomes of people in Turkey, rather than support from friends [45]. In summary, our study shows that the perceived social support provided by family members and significant others is important in the psychological well-being of caregivers.

There are some limitations to our study: first, our sample size was small, which limited the generalizability and statistical power of the results. Second, we did not account for patient-related variables or other psychological distress factors in caregivers. Previous studies pointed out that subjective caregiving experiences were subject to influence of the cancer characteristics (i.e. type and course of the cancer) and the stage of the cancer (and, thus, the severity of the symptoms) [5,9], along with the depressive symptoms of patients' and caregivers' living arrangements [4]. Third, our participants constituted a non-representative and heterogeneous sample in terms of the type/stage of the patients' cancer and the caregivers' demographic characteristics (i.e. gender, age, marital status, educational status). Despite all these limitations, data on the psychological well-being of caregivers of cancer patients in Turkey are scarce and our research offers one of the earliest studies of psychological well-being of informal caregivers of cancer patients in Turkey and it correlates from an attachment framework.

Bowlby [13] asserted that early insecure attachment patterning (i.e. anxious-ambivalence, anxious-avoidance) and less supportive relationships with others might predispose individuals to psychological problems, particularly depression and anxiety problems. Perceived social support mediated the relationship between attachment and the depressive symptoms [22]. Considering these previous findings, we speculate that attachment insecurity confers a risk for psychological distress and negative affect, which is buffered by supportive social relations [26]. The quality of parental attachment might enhance

the perceived support from friends and significant others in adulthood. Insecurely attached people might not perceive the available support provided in their social networks and, thus, they cannot utilize supportive relationships to regulate their distress and negative affectivity [46]. We could not confirm a causal relationship between attachment pattern, social support, and depression/anxiety variables due to the cross-sectional nature of our study. A further longitudinal study on the role of perceived social support in the relationship between attachment and psychological well-being is needed for informal caregiving in this context. Assessing the psychological experiences and needs of caregivers and being aware of possible risk factors (such as caregivers' personal characteristics) for depression and anxiety might be helpful for developing successful programmes and interventions. Particularly, we need to understand the supportive relation between family members and informal caregivers of cancer patients. The interventions that promote the supportive family network of caregivers might buffer vulnerable individuals against depression. Specifically, a deeper understanding of the correlates of the ambivalent attachment style of Turkish caregivers will enhance the success of outcomes in psychosocial prevention programmes/interventions for the caregivers of cancer patients [47].

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