

# Rumination, Fatigue and Psychological Resilience in Cancer Experience

## Kanser Deneyiminde Ruminasyon, Tükenmişlik ve Psikolojik Sağlamlık

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### Abstract

Cancer is a very common disorder that can affect individuals cognitively, emotionally, physically and socially. It can cause negative ruminative thoughts among individuals by affecting the thinking system since the diagnosis and these thoughts may result in various psychosocial problems. If the negative ruminative thoughts are not able to manage effectively through the process, individuals having cancer can experience fatigue. This process can be defined as cancer-related fatigue, it can not only affect the disease process but also affect the remission process. By the way, resilience which is described as the power to overcome negative experiences leads to a focus on positive ruminative thoughts. In this way, individuals can find positive outcomes such as restructuring the traumatic life experience, adaptation to disease process, and even gaining resilience, etc. The aim of this article is to explain the concepts of rumination, cancer-related fatigue, and psychological resilience and to reveal possible effects on the cancer process.

**Keywords:** Cancer, fatigue, psychological resilience, rumination

### Öz

Kanser bireyleri bilişsel, duygusal, fiziksel, sosyal yönlerden etkileyebilen, oldukça yaygın görülen bir hastalıktır. Bireylerin tanı almalarından itibaren düşünce sistemini etkileyerek olumsuz ruminatif düşüncelere neden olabilmekte ve bu düşünceler çeşitli psikososyal problemlerle sonuçlanabilmektedir. Süreç içerisinde yaşanılması olası olumsuz ruminatif düşünce sistemi iyi yönetilemediğinde kanser deneyimi yaşayan bireylerin tükenmişlik yaşamasına neden olabilmektedir. Kansere bağlı tükenmişlik olarak adlandırılan bu durum, bireylerin sadece hastalık sürecini değil remisyon dönemini de etkileyebilmektedir. Öte yandan, yaşanan olumsuz deneyimlerin üstesinden gelebilme gücünü temsil eden psikolojik sağlamlık, bireylerin olumlu ruminatif düşüncelere odaklanabilmesine olanak sağlayabilmektedir. Böylece, bireyler travmatik yaşam deneyiminden yaşamı yeniden anlamlandırabilme, süreç uyum sağlayabilme ve hatta psikolojik açıdan güçlenme gibi olumlu çıkarımlarda bulunabilmektedir. Bu makalenin amacı, ruminasyon, kansere bağlı tükenmişlik ve psikolojik sağlamlık kavramlarının açıklanması ve kanser süreci üzerine olası etkilerinin ortaya konulmasıdır.

**Anahtar sözcükler:** Kanser, psikolojik sağlamlık, ruminasyon, tükenmişlik

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**CANCER** is among the diseases that include long-term severe treatment processes, require careful care starting from the stage of diagnosis, have the potential to decrease the quality of life, and have a high mortality and morbidity rate (Globacan, 2019). Cancer, which may cause fear, anger and future anxiety in individuals starting from diagnosis, is a disease that individuals can associate with death, pain, and suffering (Gemalmaz and Avşar 2015, Körükcü 2018). Due to the unexpected and uncontrollable nature of cancer, it is known that the diagnosis and treatment process is bothersome for the individual and it creates a traumatic effect (Jim 2008, Koutrouli 2012). This trauma effect may lead to post-traumatic stress symptoms, psycho-social problems, and radical changes in the life routines of individuals (Antoni 2013, Anderson et al. 2014, Montgomery et al. 2019). In this respect, cancer, which may be matched with metaphors such as 'war', 'Azrael', 'winter' and 'monster' by the patients can cause radical changes in individuals' lives. (Körükcü 2018). Individuals who experience shock, denial, fear and anxiety during the diagnosis period try to adapt to the physical and psycho-social changes brought about by the disease and caused by the treatment. (Gemalmaz and Avşar 2015, Hauner et al. 2017, Körükcü 2018, Teston et al. 2018). Physiological problems such as anorexia, nausea, vomiting, pain, fatigue, and hair loss (Boltong et al. 2012, Andreyev et al. 2014, Neufeld et al. 2017, Lee et al. 2018) and psycho-social problems such as change of roles, fear of death, social withdrawal, depression, anxiety disorders (Gemalmaz and Avşar 2015, Cvetkovic ve Nenadovic 2016, Körükcü 2018) are seen in individuals. These effects, which can manifest themselves in the long run through processes such as recurrence fear, death fear, anxiety, depression and alienation, are experienced by each individual at different severities (Simard et al. 2013). So much so that, it can also continue in the remission period with processes such as deterioration in body image, unemployment or early retirement, decreased quality of life and fatigue (Mehnert 2011, Weis ve Faller 2012, Paterson et al. 2016, Sharpe et al. 2018). These difficulties, which can be encountered both in the active disease process and in the remission period, may cause the individual's thought process, whose content to be busy with the disease life and react differently to the disease (Tuncay 2009, Körükcü 2018). The reactions of individuals to the diseases paired with death, such as cancer, may be in line with the reactions in the steps defined by Kübler-Ross (2008). These steps are denial, anger, bargaining, depression and acceptance; however, they may not always be seen in patients in this order, and sometimes individuals may get stuck in a certain step and not show any changes (Kübler-Ross 2008). The steps through which the individual will go through, which step s/he will have difficulty in, the cause of the disease, the meaning attributed to the disease may be shaped by thoughts regarding uncertainties about how the process will work. This situation arises from ruminative thinking structure, which involuntarily comes to mind (Boyle et al. 2017, Gorini et al. 2017). This mindset, called rumination, can affect cognitive, emotional and behavioral areas and is difficult to control (Martin and Tesser 1996). Although ruminative thinking style is observed in every step, it can occupy the mind of individuals more especially in depression stage and affect well-being negatively (Boyle et al. 2017).

Rumination can be constructive or destructive depending on whether it supports ongoing negative thoughts and feelings, and its level of helping the person act towards problem solving or finding meaning (Calhoun et al. 2010). Calhoun et al. (2010) who argues that there are two kinds of ruminative thoughts, namely intrusive and deliberate

rumination, calls ruminative thinking, which gives an emotional distress such as desperation, sadness and fear that ensue immediately after the event as "intrusive rumination," "Deliberate rumination," which is another type of ruminative thought, attempts to grasp the event and restore beliefs and leads the individual to a more positive understanding, in which s/he can make sense of the problem s/he is experiencing. Likewise, Calhoun et al. (2010) divided the ruminative way of thinking into two as intrusive and deliberate rumination. Therefore, intrusive ruminative thoughts, which are considered more negative and have the potential to negatively influence the individual's perspective, can decrease the level of physical, psychological and social well-being in the cancer process (Galfin and Watkins 2012, Javaid et al. 2018). In the studies conducted in this respect, it was found that the cancer patients' ruminative way of thinking was associated with post-traumatic stress disorder (PTSD), anxiety and depression development, body image anxiety, emotional distress and dysfunctional attitudes, and delay in receiving health care (Lyubomirsky et al. 2006, Yu et al. 2008, Thomsen et al. 2013, Liu et al. 2017, Liu et al. 2018). On the other hand, deliberate ruminative thoughts in cancer patients are known to mediate post-traumatic growth (Chan et al. 2011, Ogińska-Bulik, 2017).

Another area where negative ruminative thoughts can be effective can be considered as cancer-related fatigue. The concept of cancer-related fatigue, whose physio-pathology is not clearly known, and on which central and environmental factors together are thought to be effective, including physical, emotional and cognitive domains (O'Higgins et al. 2018). Therefore, fatigue also has the potential to affect the evaluation and interpretation of the process by the individual, as in ruminative thoughts. Cancer-related fatigue, unlike physical fatigue, where individuals can relax by resting, also includes psycho-social processes and can affect both the treatment process and the remission period (Hofman et al. 2007). These effects can be manifested by signs and symptoms such as weakness, fatigue, lack of energy, not being able to enjoy life, difficulty in getting attention, anxiety and fear (Hofman et al. 2007, Borneman et al. 2012). Psychological stress experiences, inflammation, low sleep quality, depression, anxiety and low quality of life are among the risk factors that increase fatigue in cancer patients (Goldstein et al. 2006, Rodrigues et al. 2016). Fatigue, which ensues associated with these factors can lead to a decrease in cancer patients' quality of life, psychological distress, disruption of interaction with other people and difficulty in fulfilling their roles (Hofman et al. 2007, Borneman et al. 2012, Garabeli Cavalli Kluthcovsky et al. 2012). In overcoming these limitations, what gains importance is the concept of psychological resilience, which increases individuals' ability to cope with traumatic factors and allows them to return to their pre-traumatic lives as much as possible.

Psychological resilience, which is an important premise of the concept of post-traumatic growth, which can be seen as a result of deliberate ruminative thinking, is the ability of the individual to maintain his/her psychological and physical functions relatively stable when s/he encounters stressful life events or to restore his/her impaired functions in a short time (Bonanno et al. 2011). Therefore, in stressful life experiences such as cancer experience, individuals can manage the process better and be freed from this negative situation by developing psychological resilience as a result of strengthening personal and social resources and teaching effective coping methods (Seiler and Jenewein 2019). This situation can be effective in reducing the intrusive ruminative thoughts and cancer-related fatigue mentioned earlier. In addition, it has been demonstrated by various studies that cancer patients with high psychological resilience better manage both

the disease process and the negative life experiences related to the process. (Tian and Hong 2014, Ristevska-Dimitrovska et al. 2015, Matzka et al. 2016, Hu et al. 2018, Üzar-Özçetin and Hiçdurmaz 2019). In these studies, it was revealed that cancer patients with high psychological resilience experience less psychological stress, anxiety and depression, cope with treatment-related side effects more easily and that their quality of life increases (Tian and Hong 2014, Ristevska-Dimitrovska et al. 2015, Matzka et al. 2016, Hu et al. 2018). Assessing the relationship of these three concepts with cancer experience and their possible effects on the process can be important both in terms of providing a better understanding of the process experienced for health care team members working with the individuals who have cancer and in planning the interventions that can contribute to individuals' strengthening.

In the literature of our country, it has been observed that there are quite limited publications on the concepts of rumination, cancer-related fatigue and psychological resilience in the cancer process (Görgülü and Akdemir 2010, Karatepe 2010, Neziroğlu 2010, Haselden 2014, Şahin et al. 2018, Elma 2019, Haspolat 2019). In these publications, it was seen that the effects of the concept of rumination were generally examined on healthy individuals (Karatepe 2010, Neziroğlu 2010, Haselden 2014, Elma 2019), and the effect of cancer-related fatigue on patients was discussed in very limited studies (Görgülü and Akdemir 2010, Şahin et al. 2018) and publications in the field of psychological resilience were not addressed with the two other concepts mentioned. In this sense, it is aimed to explain the concepts of rumination, cancer-related fatigue and psychological resilience and to reveal their possible effects on the process.

## **Rumination and cancer experience**

As in all vital processes, cognitions are activated in the disease process, and especially in diseases such as cancer, which have a high potential of affecting the life of the individual, it may affect the individual's perception of disease, treatment processes and compliance (McGinty et al. 2010, Thewes et al. 2013, Butow et al. 2015). These effects can be experienced more frequently and intensively in chronic disease processes such as cancer (Butow et al. 2014). Cancer may busy individuals' thought processes with questions such as "is it a punishment", "why me", "where did I go wrong" starting from the time of diagnosis (Tuncay 2009, Körukü 2018). These thoughts, called rumination, are sometimes brought to mind voluntarily and sometimes unintentionally. Thus, the individual spends most of his/her time with the intense ruminative thought content mentioned (Boyle et al. 2017, Gorini et al. 2017). These ruminative thoughts, which function in the interpretation and management of the process, are often uncontrollable and can affect cognitive, emotional and behavioral areas (Martin and Tesser 1996).

Rumination was first evaluated in relation to depression, anxiety and the thought system of individuals experiencing PTSD (Nolen-Hoeksema 1987, Nolen-Hoeksema and Morrow 1991, Ehrling et al. 2008, Roley et al. 2015). In the studies made in this context, the patients who gave a ruminative response to depression and focused on the symptoms and the consequences of the symptoms were found to have a prolonged disease processes (Nolen-Hoeksema 1987, 1991). It was also revealed that individuals who thought ruminatively in intrusive style, thought again and again about the state they experience without taking action, had more access to negative memories and accordingly felt failure and helplessness (Nolen-Hoeksema, 1987). In the subsequent studies, rumination, which is

thought to ensue in diseases such as PTSD and depression (Nolen-Hoeksema and Morrow 1991, Harrington and Blankenship 2002, Ehring et al. 2008, Roley et al. 2015, Arditte Hall et al. 2019) is known to be seen in almost every traumatic situation, especially accompanying the processes of chronic diseases such as cancer (Yu et al. 2008).

Ruminative thoughts, which start with questionings such as why the disease in question hit the person, continue with the questions of whether s/he will recover during the treatment process and when this treatment will end, and with recurrent thoughts about the fear of relapse during the remission period, disturb individuals throughout the process (Kyriacou et al. 2017, Körükcü 2018, Nies et al. 2018). Ruminative mindset was defined with two sub-types, being brooding and self-reflection (Burwell and Shirk 2007). While brooding is associated with the strategies of denial, avoidance, stress and negative affection, it was found to be associated with positive coping focused on changing response to stress, such as self reflection, problem solving, cognitive restructuring (Burwell and Shirk 2007). In this respect, it can be seen that broodings are similar to intrusive rumination and that self-reflective thoughts are similar to deliberate rumination.

Intrusive ruminative thoughts can negatively affect the bio-psycho-social well-being levels of cancer patients (Galfin and Watkins 2012, Javaid et al. 2018). In studies conducted, this way of thinking was found to be associated with processes such as PTSD, development of anxiety and depression, body image anxiety, emotional distress (Yu et al. 2008, Thomsen et al. 2013, Liu et al. 2018) and delay in receiving health care (Liu et al. 2017) in cancer (Lyubomirsky et al. 2006) patients. Again, in different studies conducted with cancer patients, it was observed that intrusive ruminative thoughts mediated PTSD and deliberate ruminative thoughts mediated post-traumatic growth (Chan et al. 2011, Ogińska-Bulik 2017). Therefore, individuals can be supported in terms of developing ways of coping with emotions related to trauma by way of turning intrusive ruminative thoughts into deliberate ruminative thoughts (Calhoun et al. 2010).

In the literature, there are three scales that are frequently used in measuring ruminative thinking styles and the validity and reliability of which have been tested in our country. These are the scales named "Event Related Rumination Inventory (OÏRE)" (Haselden 2014), "Ruminative Thinking Scale" (Karatepe 2010) and "Ruminative Responses Scale" (Nezirođlu 2010). When the scales were evaluated, Haselden (2014) scale was applied to university students, people with a traumatic experience. Likewise, Nezirođlu (2010) applied the scale to university students. As for Karatepe (2010), s/he applied the scale to health volunteers and aimed to measure repetitive, uncontrollable, intrusive ruminative thinking.

## **Fatigue and cancer experience**

Depending on the persistent effects of cancer and cancer treatment, patients may develop fatigue at various levels and frequency (Murley et al. 2019). In this sense, the study results show that patients experience cancer-related fatigue at varying levels between 25% and 99%. (Lim et al. 2015, Park et al. 2015). In addition, while there is a study showing that the level of fatigue experienced by advanced cancer patients is higher compared to newly diagnosed patients (Given et al. 2001), there is also a study, which reveals that on the contrary, fatigue is experienced independent from the phase (Zou et al. 2018). Cancer-related fatigue is subjective, disturbing and permanent, physical, emotion-

al or cognitive fatigue and a sense of exhaustion related to the cancer process, which is not proportional to the activity performed, and which prevents the individual's usual functionality (Mock et al. 2000). In physical fatigue, individuals may experience difficulties in starting and pursuing a job and problems such as needing to have a rest frequently; in emotional fatigue, they may experience uselessness and depressive mood and in cognitive fatigue, they may have difficulties in keeping things in mind and focusing (Borneman et al. 2012, Savina and Zaydiner 2019). Therefore, in connection with the fatigue level, individuals' quality of life is highly affected and their functionality decreases (Bower et al. 2014).

Cancer-related fatigue occurs frequently in patients and is considered a highly stressful experience (Mao et al. 2018). Fatigue, which often occurs together with other symptoms, is accompanied by pain, anemia, sleep disturbances and emotional disturbances (Mock et al. 2000). In addition, various conditions such as psychological stress, physiological disorders, emotional problems are known to increase individuals' susceptibility to fatigue (Goldstein et al. 2006, Rodrigues et al. 2016). Studies have shown that psychological stress experiences, inflammation, low sleep quality, depression, anxiety and low quality of life increase the risk of cancer-related fatigue (Goldstein et al. 2006, Rodrigues et al. 2016, Pearson et al. 2018). In a study by Lorca et al. (2016), it was found that almost all cancer patients experience fatigue, that 50% of them are mild, 36.9% of them are moderate or 12.3% of them are severe. Similarly, in another study of Borneman et al. (2012) with cancer patients, it was determined that cancer-related fatigue caused emotional lability, depressive mood, feeling of uselessness, the thought that the disease is getting worse, dependence on others and getting less pleasure from life in patients. In addition, fatigue causes individuals to have employment problems, decrease in their interaction with other individuals, negative progress of their marriages, the need to have a rest frequently and difficulty in initiating and maintaining a task (Magnusson et al. 1999, Borneman et al. 2012). These difficulties do not only occur in treatment periods but also in remission periods (Bower et al. 2014, Dahal and Meheta 2018, Di Marco et al. 2018).

Because cancer-related fatigue is a common condition that enfeebles individuals both physically and psychologically, it is highly valuable to evaluate and treat it (Peters et al. 2014, Avelar et al. 2019). In this sense, it is important to determine a treatment approach as a team to reduce fatigue, to control the accompanying symptoms, to determine the physiological and psycho-social fatigue levels of individuals and to make a plan for reducing this fatigue (Hockel et al. 2012). The studies conducted show that physical activities such as sports, bed rest and relaxation and providing psycho-social support can decrease fatigue by taking part in these plans (Curt et al. 2000, Reif et al. 2012, Zhou et al. 2018).

When the scales in the literature were examined in order to evaluate the concept of fatigue related to cancer, "Cancer Fatigue Scale (CFS)" (Okuyama et al. 2000) and "Piper Fatigue Scale" (Piper et al. 1998) were found.

## **Psychological resilience and cancer experience**

Many people may face traumatic events at some point in their lives. However, these experiences do not always have a traumatic effect on individuals, some individuals even have positive emotional experiences and may continue living with only minor and tem-

porary disruptions in their functions (Bonanno 2004). The positive experience in question is possible with the presence of psychological resilience that expresses the capacity of individuals to adapt despite stressful or life threatening life conditions (Masten et al. 1990). Psychological resilience, which has an improvable and dynamic structure is affected by individuals' personal and social support resources such as optimism, positive mood, self-esteem and psycho-social characteristics such as education level, adaptation to disease, quality of life (Molina et al. 2014, Amstadter et al. 2016, Gao et al. 2019). Personal factors, biological factors and environmental factors play a key role in the development of psychological resilience (Herrman et al. 2011). Being extroversion, being open to experiences, being focused on internal control, self-efficacy, self-esteem, positive interpretation of events, and optimism are among the personal factors that affect the development of psychological resilience (Linley and Joseph 2004). As biological factors, it is stated that neural network structure, hormones, neurotransmitter reuptake and syntheses play a role in the development of psychological resilience in individuals. Environmental factors, on the other hand, include social support in family and peer relationships, safe attachment to family, continuity of family unity, safe relationship with parents, cultural factors, etc. (Herrman et al. 2011). In this sense, the fact that psychological resilience can be improved and learned is the biggest advantage of this situation (Rosenberg et al. 2018, Üzar-Özçetin and Hiçdurmaz 2019).

It is important to develop psychological resilience and to identify cancer patients at risk, which significantly affect the well-being of individuals during and after the disease process. The physical and psycho-social difficult life brought along by cancer can negatively affect the disease process of individuals and make it difficult for them to cope (Gemalmaz and Avcı 2015, Hauner et al. 2017, Körükcü 2018, Teston et al. 2018). In this sense, the existence and development of psychological resilience is very valuable for more comfortable management of cancer patients. In a study, it was found that breast cancer patients with low psychological resilience perceived their body image more negatively and complained more about the side effects of treatment (Ristevska-Dimitrovska et al. 2015). In parallel, it was demonstrated with various studies that cancer patients with high psychological resilience manage both the disease process and their lives better. When these studies were examined, it was determined that cancer patients with high psychological resilience experience low psychological stress, anxiety and depression, cope with side effects more easily, become physically more active and that their life quality increases (Tian and Hong 2014, Ristevska-Dimitrovska et al. 2015, Matzka et al. 2016, Hu et al. 2018). In addition, psychological resilience has been found to be protective against intense emotional stress experienced by individuals in metastatic cancer types that cause intense stress and fear (Min et al. 2013).

Psychological resilience that protects the individual's mental health from external factors in cancer life (Davydov et al. 2010) ensures that the individual finds meaning in his/her life, increases the positive expectations and the level of well-being. (Ickovics et al. 2006). When the literature is examined, the studies conducted indicate that coping methods of people with high psychological resilience are more effective (Connor et al. 2003, Haase et al. 2014). In order for psychological resilience to start developing in cancer patients, first of all, patients need to focus on "now and here" and accept the disease and the living conditions it brings along. A cancer patient expressed this condition with the words "I just thought I had to fight and overcome it. When I saw other people, I thought I had to live. I'm already here, I should do my best..." (Su-kerb 2014). Some

intervention studies after the acceptance of the disease allow the development of psychological resilience. When the literature is examined, it is seen that these studies involve processes such as intervention based on skills targeting stress management, goal setting, cognitive restructuring, finding meaning, developing communication skills, increasing spiritual support and using social resources (Kutluturkan et al. 2016, Rosenberg et al. 2018, Üzar-Özçetin and Hiçdurmaz 2019). Üzar-Özçetin and Hiçdurmaz (2019), in their study, showed that individuals with cancer increased their psychological resilience and even experienced post-traumatic growth with the strengthening program they implemented to replace negative automatic thoughts of cancer individuals with positive alternatives. Again Rosenberg et al. (2018), in their study, found that the program that taught the strategies they applied to cope with stress increased cancer individuals' psychological resilience.

When the literature is examined, the most common scales used in measuring psychological resilience were found to be “Connor-Davidson Resilience Scale (CD-RISC)” (Connor and Davidson 2003) and “Adult Psychological Resilience Scale (YPSÖ)” (Arslan 2015).

## Conclusion

The concepts of rumination, cancer-related fatigue and psychological resilience can shape individuals' disease experiences positively / negatively. Especially in diseases with chronic and difficult life experiences such as cancer, various ruminative thoughts that individuals think voluntarily and / or involuntarily may have an effect on the sense-making of the disease process and attributed values. Similarly, cancer-related fatigue may affect the disease process with various signs and symptoms such as feeling inadequate, thinking that one is useless, becoming dependent on others, inability to attract attention, which affect individuals both physically and cognitively. This situation can disrupt cancer-related fatigue status, as well as ruminative thoughts, and psycho-social health of cancer patients, adaptation and management of the process when not well managed. The presence of psychological resilience gains importance in reducing the negative effects mentioned. Psychological resilience refers to the capacity of individuals to adapt, despite life-threatening conditions after a traumatic experience. Therefore, with the presence of psychological resilience, it becomes easier in terms of the adaptation of individuals experiencing cancer to their changing life and management of the process and its effects. When the literature is examined, it is seen that the effects of the concept of rumination on healthy individuals were observed in general (Karatepe 2010, Neziroğlu 2010, Haselden 2014, Elma 2019), and the effect of cancer-related fatigue on patients was discussed in very limited studies (Görgülü and Akdemir 2010, Şahin et al. 2018). However, it is found that there are no studies in which the publications in the field of psychological resilience are addressed with the other two concepts mentioned. Assessing the possible effects of addressing the mentioned concepts together on the processes of individuals with cancer experience and establishing effective strengthening programs and intervention plans in this direction may increase the quality of the support that can be given to individuals. In these intervention programs that can be planned, it is predicted that it may be appropriate to consider concepts such as assertiveness, saying no, effective communication, self-knowledge, which are among the elements that strengthen the concept of psychological resilience, to evaluate the thought processes and their effects, and to

replace the dysfunctional ruminative thinking system with alternative positive thoughts. In this sense, it is anticipated that the article may be a guide in the studies to be conducted on the subject.

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