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## **Examination of the relationship of depressive symptoms and early maladaptive schemas in breast cancer patients**

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**Abstract**---Introduction: A patient diagnosed with breast cancer may enter a crisis period with the diagnosis, and this crisis may occur regardless of any factor. With this diagnosis, the individual may become depressed. Depression is an emotional state in which physical, social and mental complaints escalate in parallel with pain. Individuals schemas can also be triggered during this period. The schema model states that early maladaptive schemas underlie mental disorders and play a role in personality disorders and mood disorders. Objective: The aim of our study is to examine the relationship between depressive symptoms and early maladaptive schemas in breast cancer patients. Materials and Methods: The population of the study consists of patients who come to the oncology department of a private hospital in Denizli. The sample of the study consists of 100 female individuals diagnosed with breast cancer. Sociodemographic Information Form, Beck's Depression Inventory and Young Schema Questionnaire were used in our study. Findings: In this research, as the scores of depression levels increase, the scores they get from the sub-dimensions of Failure, Pessimism, Social Isolation, Enmeshment/Undeveloped Self, Self-Sacrifice, Abandonment/Instability, Defectiveness/Shame, Vulnerability to Harm or Illness also increase. There is a significant difference in the Enmeshment/Undeveloped Self sub-dimensions according to the sample's thought of using a breast prosthesis. Punitiveness and Self-Sacrifice sub-dimensions of those who have breast tissue removed have significantly higher scores. It was determined that those who did not have breast tissue removed had significantly higher scores in the Unrelenting Standards sub-dimension.

**Keywords**---breast cancer, depression, early maladaptive schemas, emotional deprivation schema, self-sacrifice schema.

## Introduction

The meaning of the word "cancer" brings to mind many negativities in daily life. It is inevitable for people who are diagnosed with cancer or who have risk of contracting cancer to have negative feelings and thoughts (Tünel, 2012). Patients diagnosed with cancer have problems in many functional areas such as social, physical, psychological and economic (Toptaş and Öz, 2019). New treatment approaches are being developed for cancer, which is one of the most important and current problems of modern medicine, a chronic disease that has recovery and exacerbation periods, and creates short and long-term adaptation difficulties. Today, breast cancer is perceived as a disease that includes physical disabilities, psychological, professional and sexual problems, has recovery and exacerbation periods, and creates short and long-term adaptation difficulties. From the moment people are diagnosed with cancer, many difficulties begin for both themselves and their families. (Ozbas, 2006).

According to the Global Cancer Statistics published in 2018, while 18.1 million people were diagnosed with cancer in the world, 9.6 million died due to cancer (Globocan, 2018). Breast cancer is the most common type of cancer in women and 1.38 million people are diagnosed with breast cancer in about a year (Sevli, 2019). Breast cancer ranks first among the cancer types seen in women in Europe, the United States and Turkey. Studies on breast cancer also put forth that the rate of incidence of breast cancer is gradually increasing and it varies between regions. In Turkey, 40.6% of patients diagnosed with breast cancer are between the ages of 25-49, while 44.5% are between the ages of 50-69 (Esen et al., 2020). The risk of breast cancer is higher in middle-aged women and older women than younger ones.

Every female patient diagnosed with breast cancer may be in a crisis period, and this crisis may occur regardless of age, ethnic group or stage of the disease. Patients diagnosed with cancer face intense stress and this process differs from patient to patient. The responses of patients to the disease under the intense stress they have experienced are affected by the meaning they attribute to cancer and the way they understand it. The individuals' childhood experiences, personality organization and the basic patterns under it play an active role in this process. Although it is stated that according to the schema model, early maladaptive schemas underlie mental disorders and play a role in personality and mood disorders, studies on the relationship between breast cancer and schemas are minute amount. However, in this period, it is necessary to examine the schemas and reveal the relationship with the disease process. According to Beck (1995), schemas are templates that comprise mental representations of life experiences, semantic and strategic components, as well as somatic and emotional symptoms. According to Cognitive Theory, individuals negative core beliefs or schemas about themselves, others and how the world runnings play a role in the formation and maintenance of mental disorders.

According to Beck's (1976) Cognitive Theory, being exposed to stress activates the schemas and determines how the individual will react to this situation. Early maladaptive schemas are comprehensive and extensive cognitive patterns of memories, feelings, cognitions, and physical sensations related to one's

relationship with oneself and others. Based on the assumptions of Beck's Cognitive Therapy (Hofmann, Asmundson and Beck, 2013), automatic thoughts, beliefs, and schemas influence emotions and behaviors. Therefore, it has been suggested that different cognitive levels contribute to the maintenance of different forms of psychopathology (Güler, 2022). Although schemas arise as a result of not meeting the basic needs of people in early childhood, they show their effects in adulthood (Güler and Öcal, 2021).

Early maladaptive schemas emerge with negative life experiences and cause the person to have negative thoughts and give rise to people to believe that the support they need cannot be met by others (Güler and Tuncay, 2021). Schema domains also shape the way individuals perceive themselves, others and their environment. The schema domains that individuals have become a solid and rigid structure that is difficult to change over time and take a place in the person's life, and these schema domains also make people feel more comfortable (Güler and Yüksel, 2021). These patterns, which are formed during childhood and adolescence and develop throughout life, impair functionality to a certain extent due to their rigidity and solidity (Yigit & Erden, 2015). When the literature is reviewed, no study was found in which the variables of breast cancer, depressive symptoms and early maladaptive schemas were considered together. Therefore, this study will contribute to the literature and to create a resource. In this context, the main purpose of the study is to determine the relationship between depressive symptoms and early maladaptive schemas in breast cancer. In addition, it is also aimed to examined whether some socio-demographic characteristics are associated with breast cancer.

## **Methods**

### **Model**

In this study, correlational survey model was used. The correlational survey model is all of the research designs that aim to determine the existence or degree of co-variance between two or more variables.

### **Participants**

The population of the research consists of patients who come to the oncology department of a private hospital in Denizli. The sample of the study consists of 100 female individuals diagnosed with breast cancer.

### **Measures**

Three measurement tools were used in the study.

#### **Young Schema Questionnaire**

In the short form developed by Jeffrey Young on the basis of Schema Therapy (1990, 2003), 18 dimensions are proposed, covering the schema domains of Disconnection and Rejection, Impaired Autonomy and Performance, Impaired Limits, Other Directedness, Overvigilance and Inhibition (Rafaeli, 2011). The

subdimensions are, respectively: Abandonment/Instability, Mistrust/Abuse, Emotional Inhibition, Defectiveness/Shame, Social Isolation/Alienation, Dependence/Incompetence, Vulnerability to Illness and Harm, Enmeshment/Undeveloped Self, Failure, Entitlement/Grandiosity, Insufficient Self-Control/Self-Discipline, Subjugation, Self-Sacrifice, Approval Seeking, Negativity/Pessimism, Emotional Deprivation, Unrelenting Standards/Hypercriticalness and Punitiveness (Young, 2003). On the 90-item scale, participants rate each item (1= Completely untrue of me, 6= Describes me perfectly) on a 6-point Likert scale. In the original form of the scale, each subscale consists of 5 items, and accordingly, the scores obtained from the subscales can vary between 5 and 30 (Young, 1990, 2003).

### Beck's Depression Inventory

Beck Depression Scale, which was developed by Beck in 1961 and whose validity and reliability studies were carried out by Tegin (1980), Hisli (1988) in Turkey, is characterized by pessimism, sense of failure, self-dissatisfaction, guilt, irritability, fatigability, loss of appetite, indecisiveness, insomnia and social withdrawal. It consists of 21 items related to depressive symptoms such as social withdrawal (Beck, 1961). Each item includes four-level self-evaluation statements that determine a behavior specific to depression (Hisli 1988, Beck, 1961).

### Data Analysis Techniques

The data obtained with the data collection tools were computerised as numerical expressions and these data were converted into statistical results by using the statistical package program for social sciences. Before starting the analysis, the data were examined in terms of normal distribution. In the Shapiro-Wilk Test ( $S-W = .985$ ,  $df = 100$ ,  $p = .329$ ), Beck Depression levels of the dependent variables of the breast cancer group were found to have a normal distribution. It was observed that Young Schema levels, one of the dependent variables, showed a normal distribution in the Shapiro-Wilk Test ( $S-W = .987$ ,  $df = 100$ ,  $p = .455$ ). The applied data analysis was based on the 95% confidence level. In the comparison of quantitative data, One Sample T test was used for the analysis of the difference between the two groups, and Analysis of Variance was used for the intergroup comparisons of the parameters in case of more than two groups. The relationship between dependent and independent variables of the study was tested with Pearson correlation.

### Findings

Table 1

The Result of Pearson Product Moment Correlation Analysis to Determine the Relationship Between the Scores from Beck Depression and Early Maladaptive Schemas Sub-Dimensions

| Early Maladaptive Schemas |   | Beck Depression |
|---------------------------|---|-----------------|
| Emotional Deprivation     | r | ,135            |
|                           | p | ,179            |
| Failure                   | r | ,392**          |

|                                           |   |        |
|-------------------------------------------|---|--------|
|                                           | p | ,000   |
| Negativity/Pessimism                      | r | ,259*  |
|                                           | p | ,009   |
| Social Isolation                          | r | ,263** |
|                                           | p | ,008   |
| Emotional Inhibition                      | r | ,129   |
|                                           | p | ,202   |
| Approval-Seeking                          | r | ,045   |
|                                           | p | ,653   |
| Enmeshment/Undeveloped Self               | r | ,389** |
|                                           | p | ,000   |
| Insufficient Self-Control/Self-Discipline | r | ,066   |
|                                           | p | ,513   |
| Self Sacrifice                            | r | ,252*  |
|                                           | p | ,011   |
| Abandonment/ Instability                  | r | ,311** |
|                                           | p | ,002   |
| Punitiveness                              | r | ,120   |
|                                           | p | ,236   |
| Defectiveness/Shame                       | r | ,204*  |
|                                           | p | ,042   |
| Vulnerability to Harm or Illness          | r | ,320** |
|                                           | p | ,001   |
| Unrelenting Standards                     | r | ,193   |
|                                           | p | ,055   |

\*\*p<.01, \*p<.05

As can be seen in Table 1, as a result of the Pearson Correlation analysis performed to measure the relationship between Depression levels and Early Maladaptive Schemas sub-dimensions; A significant positive correlation was found between depression levels and Failure sub-dimension score ( $r = .392$ ,  $p < .01$ ). As their depression level scores increase, the scores they get from the failure sub-dimension also increase. A significant positive correlation was found between depression levels and the Pessimism sub-dimension score ( $r = .259$ ,  $p < .05$ ). As their depression level scores increase, the scores they get from the Pessimism sub-dimension also increase. A significant positive correlation was found between depression levels and Social Isolation sub-dimension score ( $r = .263$ ,  $p < .05$ ). As their depression level scores increase, the scores they get from the Social Isolation sub-dimension also increase. A positive and significant correlation was found between depression levels and the scores of the Enmeshment/Undeveloped Self sub-dimension ( $r = .389$ ,  $p < .01$ ). As their depression level scores increase, the scores they get from the Enmeshment/Undeveloped Self sub-dimension also increase.

A positive and significant correlation was found between depression levels and the Self-Sacrifice sub-dimension score ( $r = .252$ ,  $p < .05$ ). As their depression level scores increase, the scores they get from the Self-Sacrifice sub-dimension increase. A positive and significant correlation was found between depression levels and Abandonment/ Instability sub-dimension score ( $r = .311$ ,  $p < .05$ ). As

their depression level scores increase, the scores they get from the Abandonment/Instability sub-dimension also increase. A significant positive correlation was found between depression levels and Defectiveness/Shame sub-dimension score ( $r = .204$ ,  $p < .05$ ). As their depression level scores increase, the scores they get from the Defectiveness/Shame sub-dimension also increase. A positive and significant correlation was found between depression levels and the score of the Vulnerability to Harm or Illness sub-dimension ( $r = .320$ ,  $p < .05$ ). As their depression level scores increase, the scores they get from the Vulnerability to Harm or Illness sub-dimension increase. No significant correlation was found between Depression and Emotional Deprivation sub-dimension score ( $r = .135$ ,  $p > .05$ ), Emotional Inhibition sub-dimension score ( $r = .129$ ,  $p > .05$ ), Approval Seeking sub-dimension score ( $r = .045$ ,  $p > .05$ ), Insufficient Self-Control/ Self-Discipline sub-dimension score ( $r = .066$ ,  $p > .05$ ), Punitiveness sub-dimension score ( $r = .120$ ,  $p > .05$ ), Unrelenting Standard sub-dimension score ( $r = .193$ ,  $p > .05$ ).

Table 2

The Results of the Unpaired T- Test Performed to Determine Whether the Depression Levels of the Sample Group Differ According to the Removal of Breast Tissue

| Variables  | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t     | p    |
|------------|---------------|----|-----------|------|----|-------|------|
| Depression | Yes           | 80 | 17,98     | 9,43 | 98 | -,271 | ,231 |
|            | No            | 20 | 18,60     | 7,21 |    |       |      |

\*\* $p < .01$ , \* $p < .05$

As seen in Table 2, as a result of the unpaired t test, there was no significant difference between Depression levels according to the breast tissue removal status ( $p > .05$ ).

Table 3

The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Disconnection and Rejection Schema Domains of the Sample Group differ according to the Removal of Breast Tissue

| Variables               | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t     | p    |
|-------------------------|---------------|----|-----------|------|----|-------|------|
| Emotional Deprivation   | Yes           | 80 | 11,91     | 5,22 | 98 | -,494 | ,351 |
|                         | No            | 20 | 12,55     | 4,90 |    |       |      |
| Social Isolation        | Yes           | 80 | 16,03     | 6,23 | 98 | -,206 | ,480 |
|                         | No            | 20 | 16,35     | 5,41 |    |       |      |
| Abandonment/Instability | Yes           | 80 | 9,98      | 3,58 | 98 | -,510 | ,539 |
|                         | No            | 20 | 10,45     | 3,79 |    |       |      |
| Defectiveness/Shame     | Yes           | 80 | 9,61      | 3,41 | 98 | ,376  | ,364 |
|                         | No            | 20 | 9,30      | 2,93 |    |       |      |

\*\* $p < .01$ , \* $p < .05$

As can be seen in Table 3, there is no significant difference between the sub-dimensions of Disconnection and Rejection Schema Domain according to the unpaired t-test breast tissue removal status ( $p > .05$ ).

Table 4

The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Impaired Autonomy and Performance Schema Domains of the Sample Group differ according to the Removal of Breast Tissue

| Variables                           | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t     | p    |
|-------------------------------------|---------------|----|-----------|------|----|-------|------|
| Failure                             | Yes           | 80 | 14,80     | 4,42 | 98 | ,731  | ,488 |
|                                     | No            | 20 | 14,00     | 4,16 |    |       |      |
| Enmeshment/U<br>ndeveloped Self     | Yes           | 80 | 18,63     | 6,46 | 98 | -,197 | ,251 |
|                                     | No            | 20 | 18,95     | 5,78 |    |       |      |
| Vulnerability<br>to Harm or Illness | Yes           | 80 | 13,71     | 5,92 | 98 | -     | ,938 |
|                                     | No            | 20 | 16,80     | 6,57 |    |       |      |

\*\*p<.01,\*p<.05

As can be seen in Table 4, there is no significant difference between the sub-dimensions of Impaired Autonomy and Performance Schema Domain according to the unpaired t test breast tissue removal status (p>.05).

Table 5

The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Impaired Limits Schema Domain of the Sample Group differ according to the Removal of Breast Tissue

| Variables                               | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t     | p    |
|-----------------------------------------|---------------|----|-----------|------|----|-------|------|
| Insufficient<br>Control/Self-Discipline | Self- Yes     | 80 | 22,51     | 6,75 | 98 | 1,140 | ,233 |
|                                         | No            | 20 | 20,65     | 5,52 |    |       |      |

\*\*p<.01,\*p<.05

As can be seen in Table 5, there is no significant difference between the sub-dimensions of Impaired Limits Schema Domain according to the unpaired t-test breast tissue removal status (p>.05).

Table 6

The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Other-Directedness Schema Domain of the Sample Group differ according to the Removal of Breast Tissue

| Variables        | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t     | p      |
|------------------|---------------|----|-----------|------|----|-------|--------|
| Approval-Seeking | Yes           | 80 | 20,51     | 5,50 | 98 | ,514  | ,807   |
|                  | No            | 20 | 19,80     | 5,69 |    |       |        |
| Self- Sacrifice  | Yes           | 80 | 26,18     | 4,00 | 98 | 2,141 | ,001** |
|                  | No            | 20 | 23,80     | 5,99 |    |       |        |

\*\*p<.01,\*p<.05

As can be seen in Table 6, there is no significant difference between the Approval-Seeking sub-dimension according to the unpaired t-test breast tissue removal status (p>.05). As a result of the unpaired t-test, there was a significant difference

between the Self-Sacrifice sub-dimension according to the removal of breast tissue [ $t(98) = 2.141$ ,  $p < .01$ ]. Self-sacrifice sub-dimension score in breast tissue removed have a significantly higher score than those whose breast tissue was not removed.

Table 7

The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Overvigilance/Inhibition Schema Domain of the Sample Group differ according to the Removal of Breast Tissue

| Variables             | Breast Tissue | N  | $\bar{X}$ | Ss   | Sd | t      | p     |
|-----------------------|---------------|----|-----------|------|----|--------|-------|
| Negativity/Pessimism  | Yes           | 80 | 14,96     | 6,76 | 98 | -,170  | ,943  |
|                       | No            | 20 | 15,25     | 6,82 |    |        |       |
| Emotional Inhibition  | Yes           | 80 | 13,08     | 4,98 | 98 | -1,152 | ,282  |
|                       | No            | 20 | 14,50     | 4,51 |    |        |       |
| Punitiveness          | Yes           | 80 | 23,00     | 5,45 | 98 | 1,006  | ,041* |
|                       | No            | 20 | 21,65     | 5,00 |    |        |       |
| Unrelenting Standards | Yes           | 80 | 10,73     | 3,44 | 98 | -,512  | ,039* |
|                       | No            | 20 | 11,20     | 4,25 |    |        |       |

\*\* $p < .01$ , \* $p < .05$

As can be seen in Table 7, there is no significant difference between the sub-dimensions of Pessimism, Emotional Inhibition, and Punitiveness according to the unpaired t-test breast tissue removed ( $p > .05$ ). As a result of the unpaired t test, there is a significant difference between the Punitiveness sub-dimension according to the breast tissue removal status [ $t(98) = 1.006$ ,  $p < .05$ ]. Those who removed breast tissue had a significantly higher score in the sub-dimension of Punitiveness than those whose breast tissue was not removed. As a result of the double independent t test, there was a significant difference between the Unrelenting Standards sub-dimension according to the breast tissue removal status [ $t(98) = -.512$ ,  $p < .05$ ]. Those whose breast tissue was not removed had a significantly higher score than those whose breast tissue was removed from the Unrelenting Standards sub-dimension.

Table 8

The Results of One-Way Analysis of Variance (ANOVA) Performed to Determine Whether the Depression Levels of the Sample Group Differ According to the Removed Breast

| Variables  | Tissue Remove<br>d Breast | N  | $\bar{X}$ | Ss   | Data Source            | Sum of Square<br>s | Sd | Average of Squares | F    | P        |
|------------|---------------------------|----|-----------|------|------------------------|--------------------|----|--------------------|------|----------|
| Depression | Right Breast              | 33 | 16,84     | 9,54 | Inter Mammaryc<br>left | 93,50<br>1         | 2  | 46,751             | ,519 | ,5<br>97 |

|             |    |       |       |             |          |    |        |
|-------------|----|-------|-------|-------------|----------|----|--------|
| Left Breast | 39 | 18,48 | 9,18  | Breast Mass | 6939,486 | 77 | 90,123 |
| Both        | 8  | 20,25 | 10,80 | Sum         | 7032,988 | 79 |        |

\*\*p<.01,\*p<.05

As seen in Table 8; There was no significant difference between depression levels according to the breast removed in the sample group ( $p>.05$ ).

Table 9  
The Results of the Unpaired t-Test Performed to Determine Whether the Depression Levels of the Sample Group differ according to the Wearing Breast Prosthesis

| Variables  | Wearing Prosthesis | Breast | N | $\bar{X}$ | Ss   | Sd | t     | p    |
|------------|--------------------|--------|---|-----------|------|----|-------|------|
| Depression | Yes                |        | 8 | 16,25     | 9,31 |    |       |      |
|            | No                 |        | 9 | 18,27     | 9,01 | 98 | -,607 | ,812 |
|            |                    |        | 2 |           |      |    |       |      |

\*\*p<.01,\*p<.05

As can be seen in Table 9, there was no significant difference between depression levels according to the use of breast prosthesis as a result of the unpaired t test ( $p>.05$ ).

Table 10  
The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Impaired Limits Schema Domain of the Sample Group differ according to the Wearing Breast Prosthesis

| Variables                                 | Wearing Prosthesis | Breast | N  | $\bar{X}$ | Ss   | Sd | t     | p      |
|-------------------------------------------|--------------------|--------|----|-----------|------|----|-------|--------|
| Insufficient Self-Control/Self-Discipline | Yes                |        | 8  | 25,87     | 9,77 |    |       |        |
|                                           | No                 |        | 92 | 21,81     | 6,15 | 98 | 1,699 | ,005** |

\*\*p<.01,\*p<.05

As seen in Table 10, there is a significant difference between the sub-dimension of Insufficient Self-Control/Self-Discipline according to the use of breast prosthesis as a result of the unpaired t-test [ $t(98)= 1.699$ ,  $p<.01$ ]. Prosthesis wearers also have a significantly higher score in the sub-dimension of Insufficient Self-Control/Self-Discipline than those who do not wear prostheses.

Table 11  
The Results of the Unpaired t-Test Performed to Determine Whether the Sub-dimensions of the Overvigilance/Inhibition Schema Domain of the Sample Group differ according to the Wearing Breast Prosthesis

| Variables | Wearing Breast | N | $\bar{X}$ | Ss | Sd | t | P |
|-----------|----------------|---|-----------|----|----|---|---|
|-----------|----------------|---|-----------|----|----|---|---|

| Prosthesis            |     |    |       |      |    |       |           |
|-----------------------|-----|----|-------|------|----|-------|-----------|
| Negativity/Pessimism  | Yes | 8  | 14,25 | 3,37 | 98 | -,335 | ,018*     |
|                       | No  | 92 | 15,08 | 6,97 |    |       |           |
| Emotional Inhibition  | Yes | 8  | 12,00 | 3,85 | 98 | -,821 | ,421      |
|                       | No  | 92 | 13,48 | 4,99 |    |       |           |
| Punitiveness          | Yes | 8  | 21,75 | 5,97 | 98 | -     | ,536 ,842 |
|                       | No  | 92 | 22,81 | 5,34 |    |       |           |
| Unrelenting Standards | Yes | 8  | 11,12 | 4,29 | 98 | ,241  | ,863      |
|                       | No  | 92 | 10,80 | 3,55 |    |       |           |

\*\*p<.01,\*p<.05

As can be seen in Table 11, there is no significant difference between the sub-dimensions of Emotional Inhibition, Punitiveness, and Unrelenting Standards according to the unpaired t-test breast prosthesis use ( $p>.05$ ). As a result of the unpaired t-test, there was a significant difference between the Pessimism sub-dimension according to the use of breast prosthesis [ $t(98) = -.335, p<.05$ ]. The Pessimism sub-dimension in non-prosthesis wearers has a significantly higher score than in prosthesis wearers.

## Discussion

Cancer is one of the most frequent diseases in recent years. Patients diagnosed with cancer go through a psychologically challenging process along with the pain and suffering they experience. Cancer is a disease that will negatively affect every individual diagnosed with the disease, regardless of whether they are young or old, strong or weak, poor or rich, happy or unhappy (Işıksan, 2007). Thus, it is inevitable for a patient diagnosed with cancer to have negative feelings and thoughts. Many changes occur in the life of the patient with the diagnosis of cancer. Along with the duration of disease, the person's family life, friendship relations, professional life and other areas of functionality are directly affected. How the disease is interpreted, which emotions it triggers or what thoughts it creates differs from person to person. These differences are often due to the person's current family structure, culture and personality traits. In line with the existing factors, both the evaluation of the disease and the approach to treatment are affected.

According to this study, as the scores of the individuals in the depression level increased, the scores they got from the Failure, Negativity/Pessimism, Social Isolation, Enmeshment/Undeveloped Self, Self-Sacrifice, Abandonment/Instability, Defectiveness/Shame, Vulnerability to Harm or Illness sub-dimensions also increased. In the literature, it is stated that psychological, social and environmental factors are very effective in the onset and progression of diseases. For many years, it was believed that these factors play a role in the etiology of cancer, and in recent years, it has been accepted that they have an effect on the emergence of the disease rather than causing it. Such factors affect the patient's expectation of treatment and cooperation in treatment, therefore they are effective in quality of life and success in cancer treatment. It has been determined that knowing the disease and being at an advanced age are effective in coping with stress (Şener, 1999).

According to this study, it was found that patients diagnosed with breast cancer had thoughts of fear, hopelessness, guilt, helplessness, and abandonment and these thoughts are thought to trigger schemas of Failure, Pessimism, Social Isolation, Enmeshment/Undeveloped Self, Self-Sacrifice, Abandonment/Instability, Defectiveness/Shame, Vulnerability to harm or illness. Cancer makes people feel the fear of death the most. This fear of death, which is felt, causes anxiety and depression in the person. A study on the relationship between fear of death and age in the literature revealed that younger patients experience more fear of death in cancer disease than older patients (Kastenbaum, 1992). A patient diagnosed with cancer also experiences existential anxieties in his difficult situation. The patient feels weaker and more dependent, both from the pain they feel and the fact that others are helping him. The feeling of inadequacy that develops after this feeling of weakness and dependency undoubtedly causes depression in the patient.

In the study, Punitiveness and Self-Sacrifice schemas which are the sub-dimensions of the schema domains in those whose breast tissue was removed have a significantly higher score than those who do not have breast tissue removed. On the other hand, it was determined that the Unrelenting Standards schema had a significantly higher score than those whose breast tissue was not removed. It was determined that there was no significant difference between breast tissue removal and depression scores. As their depression level scores increase, the scores they get from the sub-dimension of Failure, Pessimism, Social Isolation, Enmeshment/Undeveloped Self, Self-Sacrifice, Abandonment/Instability, Defectiveness/Shame, Vulnerability to Harm or Illness also increase.

The formation of schemas is based on the information learned from other people, the experiences encountered in life and traumatic experiences, parental attitudes and the consistent and determined meeting of universal basic needs (Güler, 2020). When we look at the structure of the schemas, the content of these schemas is based on anxiety and depressive mood. Therefore, these schemas can be expected in individuals with high levels of depression. When the literature is examined, Tünel et al. stated in their studies that cancer is a problem with mental and social components as well as a physical disease (Tünel et al., 2012). Cancer is perceived as a destruction with thoughts of fear, hopelessness, guilt, helplessness, abandonment and causes a crisis in the psychological balance of the person. The prevalence of psychiatric disorders in cancer patients is 50%, and most of these disorders are related to cancer or cancer treatment. Most of the patients have major depression, anxiety disorders, sleep disorders, suicide, delirium, especially adjustment disorder. Both cancer treatment and treatment of psychiatric disorders should be done by considering drug interactions (Tünel et al., 2012).

Considering this study, it was observed that patients diagnosed with breast cancer had thoughts of fear, hopelessness, guilt, helplessness, and abandonment and these thoughts may trigger schemas of Failure, Pessimism, Social Isolation, Enmeshment/Undeveloped Self, Self-Sacrifice, Abandonment/Instability, Defectiveness/Shame, Vulnerability to Harm or Illness. When the literature was reviewed, the prevalence of major depression in cancer patients was found to be

22%. Sleep disturbance was detected in 50% of the patients, and the rate of sleep disturbance was reported as 20% in patients with breast cancer and 15% in patients with lung cancer. It was determined that 11% of cancer patients had suicidal ideation. It has been stated that while the prevalence of death thoughts increases with age, it decreases as the time elapses after the diagnosis of cancer (Tokgöz, 2008). In our study, it is seen that patients with breast cancer diagnosis have depressive thoughts along with fear of death, and it is considered that these thoughts may affect the schemas mentioned in our study. In the literature, adjustment disorders seen with depressive affect and major depressive disorder occur in cancer patients (Ateşçi et al., 2003).

Regarding the fight against the disease and the treatment phase of the disease, Karabulut et al. determined that these processes cause anxiety and depression (Karabulut et al., 2010). As a result of the study, it can be said that Pessimism, Failure, Social Isolation, Enmeshment, Self-Sacrifice, Abandonment, Defectiveness and Vulnerability schema domains can be triggered together with the emergence of depression. In the literature, the main risk factors for depression in cancer patients are a history of psychiatric disorder, low self-esteem, excessive emotional stress at the time of diagnosis, and low emotional support (Elbi & Önen, 2001). Cancer, which is considered synonymous with death, pain and suffering, is a crisis situation that causes the patient to go through a difficult coping period and requires urgent intervention. While psychiatric disorders occur in the majority of cancer patients in response to the disease or cancer treatment, 10% of them have exacerbation of psychiatric disorders such as personality disorder or anxiety disorder that diagnosed before cancer diagnosis. Although psychiatric disorders seen in the cancer process can be treated and morbidity and mortality can be reduced in this way, it is reported that mental disorders are often not recognized and treated (Güleç and Büyükkınacı, 2011).

In this study, insufficient self-control/self-discipline schema was found to be stronger in breast prosthesis users than in non-users. The Pessimism schema is stronger in those who do not wear prostheses. Individuals with Insufficient Self-Control/Self-Discipline schemas have excessive discomfort avoidance attitudes. Since individuals with a Pessimism schema have negative thoughts about both their lives and their bodies, it can be thought that this change in the body of the participants who do not wear breast prosthesis may have triggered the pessimistic thought and emotional state of the person and therefore this schema. In the study, there was no significant difference between depression levels according to the wear of breast prosthesis. It can be thought that the situation that may be effective in the emergence of this result is due to the unbalanced distribution of individuals diagnosed with breast cancer in the sample. In addition, it can be thought that the general depressive mood of the individuals with this disease affects the emergence of such a result. A woman who has had breast surgery may perceive herself as deficient, disabled, sexually inadequate and lonely. The most common postoperative problems are anxiety, depression, anger, guilt, fear and social isolation. Therefore, after the surgery, women should be provided with professional support by the members of the healthcare team (Şener, 1999).

## Recommendations

Individuals diagnosed with breast cancer may develop depressive disorder, so getting psychological support may be beneficial in the treatment of the disease. Studies should be conducted to detect early maladaptive schemas that affect the psychological processes experienced by individuals diagnosed with breast cancer. It can be ensured that the family members of the patient also receive psychological support and learn to cope with hard times, so that they can help the patient with morale and motivation. Difficulties and psychological breakdown experienced by the patient after diagnosis may trigger early maladaptive schemas. With these triggered schemas, it may become more difficult to cope with the process. Therefore, providing well-structured psycho-education on schemas and supporting them with a schema therapy approach will help patients significantly. Training should be provided for healthy women as well as patients on the early diagnosis and control of breast cancer. Since the relatives of the patients are involved in the process, they should be included in the treatment, they should be educated and supported in coping with these difficulties.

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