

ORIGINAL RESEARCH

Determination of the Effect of Psychoeducation Programme Applied to Cancer Patients on Sleep Quality and Perceived Stress Levels

Determinación del efecto de un programa de psicoeducación aplicado a pacientes con cáncer sobre la calidad del sueño y los niveles de estrés percibidos

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Received: April 30, 2024.

Accepted: July 16, 2024.

Conflicts of interest: none.

DOI: <https://doi.org/10.71164/socialmedicine.v18i1.2025.1749>

Abstract

Objective. This study is conducted to determine the effect of a psycho education program me applied to cancer patients on their sleep quality and perceived stress levels. **Method and Material.** The study is an experimental type with pre-test post-test and an experimental control group, and the sample of the study consists of patients receiving inpatient or outpatient treatment in a training and research hospital between 01.04.2023 and 25.08.2023. Research data are obtained by using a Personal Information Form, Perceived Stress Scale (PSS) and Richard-Campbell Sleep Scale (RCS). A total of 32 patients, including 16 experimental and 16 control groups, participated in the study. **Results.** As a result of the analyses, it is determined that 56.3% of the experimental group are female, 81.3% are married, and 25% are diagnosed with GI tract cancer. It is determined that the mean pre-test score of the experimental group in the study is 51.09 ± 11.56 and the mean post-test score is 58.65 ± 11.05 , and the mean pre-test score of the ASQ is 47.5 ± 5.07 and the mean post-test score of the ASQ is 43.13 ± 4.77 . After psycho education, it is found that the sleep quality of the individuals in the experimental group increased significantly ($t= 5,736, p<0,001$) and the perceived stress decreased ($t= 6,143, p<0,001$). **Conclusion.** Inline with the findings obtained in the results of the study, it is determined that the psycho education program me improved the sleep quality of the individuals and reduced the perceived stress level.

Keywords: cancer, perceived stress, sleep quality, psychoeducation

Resumen

Objetivo. Este estudio se lleva a cabo para determinar el efecto del programa de psicoeducación aplicado a pacientes con cáncer sobre su calidad del sueño y los niveles de estrés percibidos. **Método y material.** El estudio es de tipo experimental con pretest-postest y grupo experimental-control, y la muestra del estudio está formada por pacientes que reciben tratamiento hospitalario o ambulatorio en un hospital de formación e investigación entre el 01.04.2023 y el 25.08.2023. Los datos de la investigación se obtienen mediante el formulario de información personal, la escala de estrés percibido (PSS) y la escala de sueño de Richard- Campbell (RCS). Participaron en el estudio un total de 32 pacientes, incluidos 16 del grupo experimental y 16 del grupo de control. **Resultados.** Como resultado de los análisis, se determina que el 56,3% del grupo experimental son mujeres, el 81,3% están casadas, el 25% están diagnosticadas de cáncer del tracto gastrointestinal. Se determina que la puntuación media pre-test del grupo experimental en el estudio es de $51,09 \pm 11,56$ y la puntuación media post-test es de $58,65 \pm 11,05$, y la puntuación media pre-test del ASQ es de $47,5 \pm 5,07$ y la puntuación media post-test del ASQ es de $43,13 \pm 4,77$. Tras la psicoeducación, se observa que la calidad del sueño de los individuos del grupo experimental aumenta significativamente ($t= 5,736, p<0,001$) y el estrés percibido disminuye ($t= 6,143, p<0,001$). **Conclusiones.** De acuerdo con los hallazgos obtenidos en los resultados del estudio, se determina que el programa de psicoeducación mejoró la calidad del sueño de los individuos y redujo el nivel de estrés percibido.

Palabras clave. cáncer, estrés percibido, calidad del sueño, psicoeducación



Introduction

Cancer is a complex disease with a high mortality and morbidity rate that affects health negatively in the world and in our country. With cancer, cells proliferate uncontrollably and abnormally, the diagnosis and treatment process takes a long time, and genetic and environmental factors are generally involved in its etiology.¹ As of 2022, there are over 19 million cancer patients worldwide. In addition, it is estimated that there will be a rapid increase in the number of newly diagnosed people in the next decade and survival rates will also increase.^{2,3} According to the latest GLOBOCAN data, 9.9 million of the deaths in the world in 2022 were due to cancer.³ In Turkey, cancer is the most common disease causing death after cardiovascular diseases^{4,5} (Eşe and Beydağ (2022), Gülden et al. (2020)). According to GLOBACAN data, the total number of cancer patients detected in Turkey as of 2022 is 240 thousand. Also, the number of deaths due to cancer in Turkey as of 2022 is 129 thousand.⁶

The cancer process, which starts with the diagnosis of the patient, leads to a situation in which the individual passes from a healthy life to being threatened with disease and death.^{7,8} Although new and advanced treatment possibilities have prolonged survival and life span, cancer is highly associated with concepts such as death, pain, suffering and anguish.^{9,10} This situation may arouse some feelings of questioning one's own life and feeling that life has no meaning and purpose.¹¹ These feelings lead to many negative effects on physical, psychological and social aspects of life. The individual may have various reactions such as shock, disbelief, denial, anger, and anxiety with negative effects.^{10,12} As a result of these reactions, the individual can feel lonely and his/her communication with the environment is deteriorated.^{10,13} Thus, the individual has to adapt to the treatment process and cope with psychosocial problems.

As time progresses, the individual can become unable to cope with psychosocial problems due to cancer and its effects and in adapting to treatment.¹⁴ The decrease in physical and emotional resistance of the individual results in intense stress. Considering the cancer process, individuals experience stress due to conditions such as symptoms, intensive treatments, hospitalization, uncertainties brought on by the process and low economic levels.^{1,15} The fact that

cancer is a crisis situation, and the attempts to cope with the symptoms caused by stress, and the stress itself, while dealing with the treatment process, is a very heavy burden for the individual.^{16,17} This intense stress experienced by the individual causes the development of stress symptoms such as anger, anxiety, fear and decreased sleep quality.^{10,17} Decreased sleep quality, which is one of these conditions, negatively affects the course of the disease, increases the duration of hospital stay and delays recovery.^{18,19}

It is very important to ensure that individuals with cancer cope with the conditions that affect the process, such as stress and sleep disorders, which they experience intensively, to support the positive progress of the treatment process. It is also very important to be familiar with these problems that arise, depending on how this process is experienced by individuals, in order to evaluate them from a holistic perspective, and to perform care and treatment from this perspective.²⁰

There are certain approaches that meet the psychosocial care needs of the individual with cancer and support the treatment process.²¹ Psychoeducation is used as one of these approaches. Psychoeducation is the training given, through various educational tools and methods, to increase the coping skills of the individual in need of psychosocial care, in order for the individual to be able to cooperate towards disease adaptation and treatment.¹ In this study, psychoeducation will be provided for the stress and reduced sleep quality perceived by cancer patients. Psychoeducation aims to reduce the stress perceived by the patient, to increase sleep quality, and to support them to adapt to treatments and the disease process by increasing coping skills. In this context, the study aims to address the following research questions;

1. Does the psychoeducation programme specially prepared for cancer patients have an effect on the sleep quality of patients?
2. Does the psychoeducation programme specially prepared for cancer patients have an effect on the perceived stress levels of patients?

Method

Type of Research: The research was conducted with pre-test, post-test and experimental model design with experimental-control group.

Population and Sample: The study was conducted in the oncology service of a training and research hospital between 01.04.2023 and 01.09.2023.

Inclusion Criteria:

Research covers;

- Individuals having no hearing/speech/comprehension problems that would prevent the completion of the data collection tools and the interviews to be conducted,
- Individuals, over 18 years of age with a diagnosis of Cancer,
- Individuals who had not previously been involved in a psychoeducational intervention for stress or sleep quality.

Post hoc analysis was performed to determine the quality and confidence of the research. Post hoc analysis was based on perceived stress scores. According to the perceived stress score, 95% confidence, 96% test confidence, $d=1.43$ effect size was determined as 25 people. The experimental group was calculated as 12 people and the control group as 13 people (Figure 1).

In order to increase the quality and confidence of the study, a total of 40 patients, 19 in the experimental group and 21 in the control group, were included in the study sample. However, since some participants (3 experimental and 5 control) did not continue the study, the study was completed with a total of 32 patients (16 experimental and 16 control group) (Figure 2).

Ethical Principles of Research: In order to conduct the study, written permissions were obtained from the Clinical Research Ethics

Committee of a university (Protocol E-76244175-050.04.04-221491), the people responsible for the scales used in the study, and the hospital where the study was conducted. In addition, informed consent was obtained from the participants included in the study.

Data Collection Tools: Data were collected using a Personal Information Form, Perceived Stress Scale and Richards- Campbell Sleep Scale.

Personal Information Form

This questionnaire was developed by the researchers. There are 14 questions in the form. The questions inquired about the characteristics of the patients such as age, gender, marital status, educational status, disease diagnosis, number of years with the disease, stage of the disease, duration of hospitalisation, family type and psychological status of the patient.

Perceived Stress Scale

The scale used to determine the perceived stress of the individual was developed by Cohen, Kamarck and Mermelstein (1983), and a Turkish validity and reliability study was conducted by Eskin et al.^{22,23} It consists of fourteen items and is a 5-point Likert-type scale. It measures the extent to which a person perceives the situations he/she encounters as stressful. Seven of the items (4th, 5th, 6th, 7th, 9th, 10th and 13th items) contain positive discourse and are reverse scored. The internal consistency coefficient of the scale was found to be 0.84 and the test-retest result was 0.87. High scores indicate that the stress perception of the person is high. In the Turkish validity and reliability study of the scale, Cronbach's alpha coefficient of ASÖ-4 was determined as 0.66.

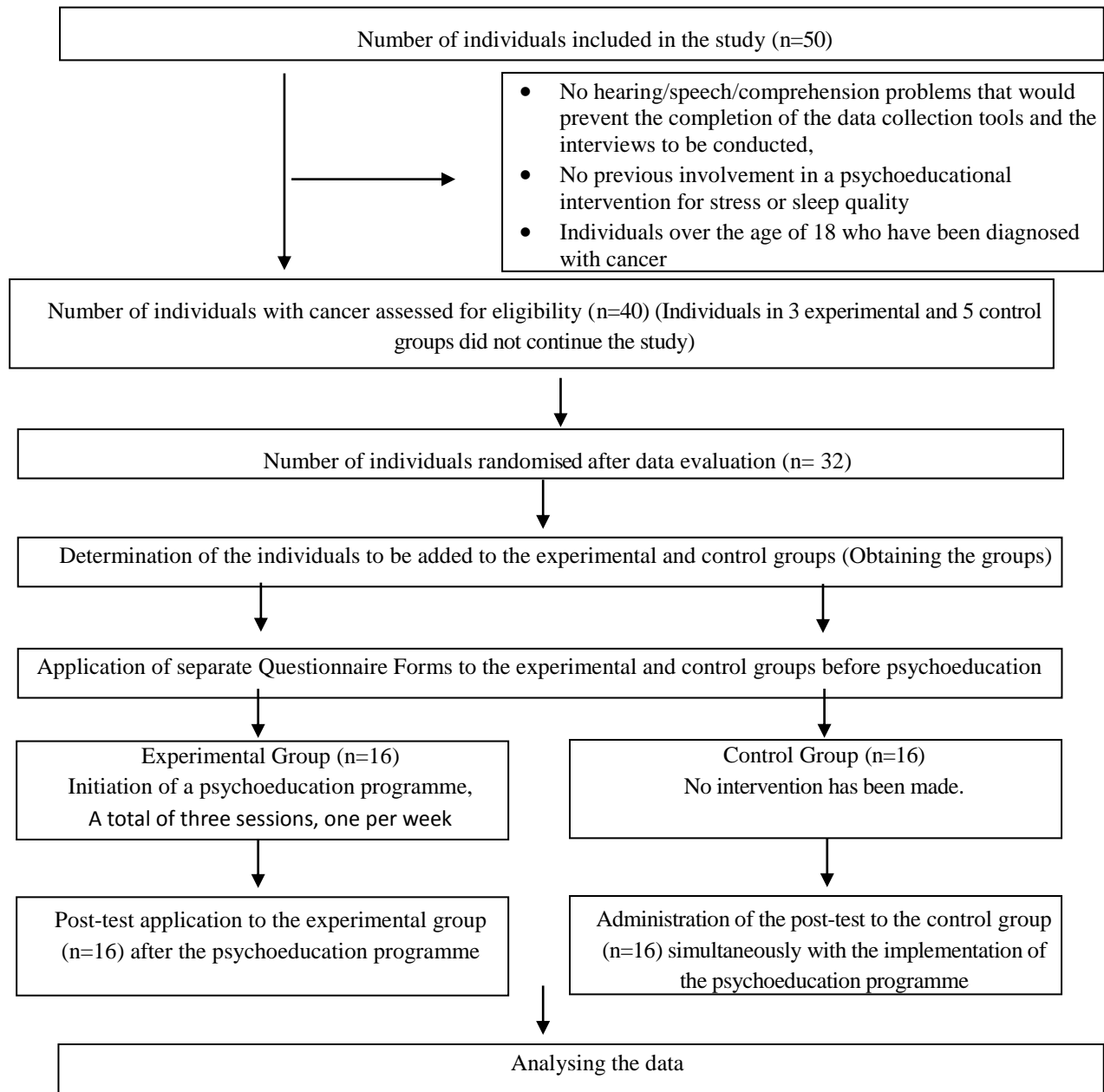
Figure 1. Post Hoc Analysis

t tests - Means: Difference between two independent means (two groups)

Analysis: Post hoc: Compute achieved power

| | | |
|----------------|----------------------------------|-------------|
| Input | Tail(s) | = One |
| | Effect size d | = 1.4335928 |
| | α err probe | = 0.005 |
| | Sample size group 1 | = 12 |
| | Sample size group 2 | = 13 |
| Output: | Noncentrality parameter δ | = 3,5811137 |
| | Critical t | = 1,7138715 |
| | Df | = 25 |
| | Power (1- β err probe) | = 0,9662288 |

Figure 2. Consort Application Flow Chart



Richard-Campbell Sleep Scale

The scale was developed by Richards (1987) to assess the sleep quality of the individual. It is a 6-item scale that evaluates the depth of the individual's night sleep, the duration of falling asleep, the frequency of waking up, the duration of staying awake when waking up, the quality of

sleep and the noise level in the environment. The Turkish validity and reliability study was conducted by Özlü.^{24,25} Each item is evaluated on a scale from 0 to 100 using the visual analogue scale technique. A score between "0-25" indicates very poor sleep and a score between "76-100" indicates very good sleep. As the score of the scale increases, the sleep quality of the patients

increases. The Cronbach's alpha value of the scale developed by Richards was 0.82.

Research Management and Implementation Content

Within the scope of the study, 50 patients were accessed. However, the study began with a total of 40 patients who were treated in the relevant service, met the inclusion criteria and agreed to participate in the study. The group to be studied was divided into 2 groups (experimental-control) with the Research Randomizer programmer. Since 8 patients did not continue after the start of the study, the process was continued with 32 patients. The study was carried out with pre-test-post-test stages for both experimental and control groups. The study was started by introducing the research to the participants and their consent was obtained. Afterwards, they were informed about the confidentiality of their personal information and it was emphasised that they could leave the study at any time.

The research was applied to the experimental group in 3 stages and to the control group in 2 stages. Each interview lasted an average of 30 minutes. In the first stage, the Personal Information Form, Perceived Stress Scale and Richard-Campbell Sleep Scale were applied to both groups. In the second stage, the experimental group was informed about the process, and the details of the training to be applied were explained. After the explanation, the days of the trainings were determined with the individuals in the experimental group. The planned psychoeducation was applied individually in the experimental group in 3 sessions, one day a week. During this period, no intervention was applied to the control group. At the end of the trainings, Perceived Stress Scale and Richard-Campbell Sleep Scale were administered to both groups. The scales were administered to each patient by the same interviewer. The implementation of the psychoeducation programme is as follows:

1. Interview

Subject: General Information about Cancer

Objectives of the Interview:

- ✓ To determine the patient's level of knowledge about cancer
- ✓ To correct the patient's misinformation about cancer, and share new information he/she needs.

Content:

- ✓ Definition of cancer
- ✓ Commonly used treatment methods (chemotherapy and radiotherapy)
- ✓ Side effects of drugs used in cancer treatment.
- ✓ Misconceptions about cancer
- ✓ Answering the question: Does cancer affects everyone the same?
- ✓ Discharge, and beyond

2. Interview

Subject: Changing the Perception of Stress

Objectives of the Interview:

- ✓ To define patient stress
- ✓ To recognise situations that cause patient stress
- ✓ To know what to do in cases of stress

Content:

- ✓ Definition of stress and identifying the patient's stress sources
- ✓ Physical, psychological and behavioural symptoms of stress
- ✓ Strategies for coping with stress and relaxation techniques for its reduction
- ✓ Talking about past achievements
- ✓ Supporting the patient's participation in social activities

3. Interview:

Subject: Improving Sleep Quality

Objectives of the Interview:

- ✓ To identify the patient's description of sleep.
- ✓ For the patient to be able to identify incorrect information about sleep and have improved sleep knowledge.
- ✓ For the patient to have better quality sleep.

Content:

- ✓ What is sleep?
- ✓ How much sleep do we need?
- ✓ What is sleep hygiene?
- ✓ Regulation of the environment for sleep
- ✓ Regulation of sleep time
- ✓ Organisation of daily activities
- ✓ Regulation of food intake
- ✓ Arrangement for mental control

Table 1. Distribution of sociodemographic characteristics of the participants

| Features | Experimental Group | | Control Group | |
|--|----------------------|------|-----------------------|------|
| | N | % | N | % |
| Average Age | 52,18± 13,380(20-78) | | 63,60± 12,269 (39-82) | |
| Gender | | | | |
| Woman | 9 | 56,3 | 9 | 56,3 |
| Male | 7 | 43,8 | 7 | 43,8 |
| Patient's Place of Residence | | | | |
| City | 9 | 56,3 | 10 | 62,5 |
| District | 5 | 31,3 | 3 | 18,8 |
| Village | 2 | 12,5 | 3 | 18,8 |
| Marital Status | | | | |
| Married | 13 | 81,3 | 11 | 68,8 |
| Single | 1 | 6,3 | 1 | 6,3 |
| Widow | 2 | 12,5 | 4 | 25 |
| Education Status | | | | |
| Illiterate | 7 | 43,8 | 8 | 50 |
| literate | 2 | 12,5 | 1 | 6,3 |
| Primary education | 5 | 31,3 | 7 | 43,8 |
| University | 2 | 12,5 | 0 | 0 |
| Who the patient lives with | | | | |
| Spouse | 4 | 25 | 4 | 25 |
| Child | 2 | 12,5 | 3 | 18,8 |
| Spouse and Child | 9 | 56,3 | 7 | 43,8 |
| Other (Mother, Father, Sibling) | 1 | 6,3 | 2 | 12,5 |
| Disease Diagnosis | | | | |
| GI System Cancers (Stomach, Pancreas, Rectum, Oesophagus, Colon) | 4 | 25 | 9 | 56,3 |
| Breast Cancer | 3 | 18,8 | 0 | 0 |
| Lung Cancer | 3 | 18,8 | 2 | 12,5 |
| Genital Area Cancers (Ovarian, Testicle, Uterus, Bladder) | 2 | 12,5 | 4 | 25 |
| Ligament and Tissue Cancers | 4 | 25 | 1 | 6,3 |
| Other Disease Status | | | | |
| Exist | 10 | 62,5 | 11 | 68,8 |
| None | 6 | 37,5 | 5 | 31,3 |
| Psychological Self-Assessment | | | | |
| Bad | 8 | 50 | 4 | 25 |
| Mid | 4 | 25 | 0 | 0 |
| Good | 4 | 25 | 12 | 75 |
| Total | 16 | 100 | 16 | 100 |

Table 2. Comparison of Perceived Stress and Sleep Score Means by Groups

| | Experimental Group | Control Group | Test Statistic | p* |
|----------------|--------------------|---------------|----------------|-------------------|
| ASO Pre-Test | 47.5 ± 5.07 | 41.56 ± 4.1 | 3.642 | p<0.001 |
| ASO Post Test | 43.13 ± 4.77 | 44.25 ± 5.52 | 0.617 | 0.542 |
| Difference | 4.38 ± 2.85 | -2.69 ± 6.09 | | |
| Test Statistic | 6.143 | 1.763 | | |
| p** | p<0.001 | 0.098 | | |
| RCU Pre-Test | 51.09 ± 11.56 | 56.98 ± 13.51 | 1.324 | 0.196 |
| RCU Post Test | 58.65 ± 11.05 | 55.74 ± 14.46 | 0.639 | 0.528 |
| Difference | -7.55 ± 5.27 | 1.24 ± 13.92 | | |
| Test Statistic | 5.736 | 0.356 | | |
| p** | p<0.001 | 0.727 | | |

*: Sample T test; **: Paired T test

Data Evaluation

The research data were analyzed in computer environment. In the evaluation of the data, whether the data showed normal distribution or not was based on the kurtosis and skewness values. While frequency and percentage calculations were made in the evaluation of the groups, Paired T test was used to evaluate the mean scores of the groups before and after the intervention. p value was based on 0.05.

Results

The distribution of sociodemographic characteristics of cancer patients participating in the study is given in Table 1. The mean age of the cancer patients in the experimental group was 52.18± 13.380, 56.3% were female, 56.3% lived in the city, 43.8% were literate, 81.3% were married and 25.0% lived with their spouses. In the experimental group, 25% of the patients were diagnosed with a cancer related to GI tract and 62.5% had another chronic disease. In addition, it was determined that 50% of the individuals in the experimental group felt psychologically bad.

There was a statistically significant difference between the pre-test and post-test mean scores of the perceived stress scale of cancer patients in the experimental group (p<0.001). It was found that there was a significant difference between the pre-test-post-test mean scores of sleep quality of cancer patients in the experimental group (p<0.001). There was no significant difference between the pre-test and post-test mean scores of the perceived stress scale of cancer patients in the control group (p=0.098). There was no statistically significant difference between the pre-test-post-test mean scores of sleep quality of cancer patients in the control group (p=0.356) (Table 2).

It was found that there was a significant difference between the mean pre-test perceived stress scores of cancer patients according to the groups (p<0.001). It was determined that there was no significant difference between the post-test perceived stress score averages of cancer patients according to the groups (p=0.542). It was found that there was no statistically significant difference between the pre-test sleep quality mean scores of cancer patients according to the groups (p=0.196).

It was determined that there was no statistically significant difference between the post-test sleep quality mean scores of cancer patients according to the groups ($p=0.528$) (Table 2).

Discussion

The findings of this study, which was conducted to determine the effect of the psychoeducation programme applied to cancer patients on the sleep quality and perceived stress levels of the patients, were discussed in line with the literature.

When the difference between the sleep quality pre-test and post-test scores of the individuals in the experimental group was examined, it was determined that the sleep quality of the individuals in the control group decreased, but this was not statistically significant.

Quality sleep is a condition that patients need more than healthy individuals.²⁶ Psychosocial problems experienced by the patient, such as intense stress, affect sleep quality.^{17,18,19} One of the diseases in which the need for sleep is high is cancer. However, factors such as psychosocial problems experienced by individuals with cancer during the diagnosis and treatment process, treatment order, and treatment-induced symptoms can result in decreased sleep quality.^{11,18} In the study conducted by Arslan and Fadiloğlu (2009), it was observed that sleep quality of individuals with cancer was lower than before the disease and sleep quality decreased further as the disease progressed.²⁷ In the study of Pazarcıkçı (2017), it was stated that the sleep quality of individuals with cancer receiving chemotherapy decreased.²⁸ When the literature is examined, it is seen that the sleep quality of individuals with cancer is negatively affected by the cancer process. For this reason, it is very important to conduct studies to improve the sleep quality of individuals with cancer.

In fact, in our study, it was indeed determined that the sleep quality of the patients was low. In this context, it is stated that psychoeducational interventions will be effective in sleep and many

related dynamics of patients.^{11,15,29} As a result of the psychoeducation applied within the scope of our study, there was a significant increase in the mean sleep quality score of the experimental group. Quesnel et al. (2003) found that cognitive behavioural therapy applied to patients with breast cancer provided positive improvements in sleep quality. Nazik et al. (2014) reported that individuals with cancer receiving chemotherapy improved their sleep quality with progressive relaxation exercises.¹⁹ When studies on some interventions for sleep quality are examined, similar results are seen as were obtained with our study. This result is an answer to our first research question.

Increasing sleep quality is very important, in terms of a more favourable treatment process and acceleration of recovery in individuals with cancer.^{25,28} It is thought that the change obtained in our study was realised with the effect of the third session, which we named "improving sleep quality." In this session, in which we aimed to improve the sleep quality of individuals, a specific approach was taken to provide accurate information about sleep. A certain environment was provided to the individual in order to determine the sleep that the individual needs and to ensure sleep hygiene in this direction. Güneş (2018) stated that sleep hygiene is an important factor in terms of sleep health.³¹ In this direction, the individual's mental preparation for sleep was explained to the individual by planning the organization of the individual's sleep environment, sleep time and food intake. He arranged his sleeping time to sleep at night, chose foods that could support his sleep such as milk and yoghurt instead of drinks that would negatively affect his sleep such as tea and coffee at night, arranged the environment to be darker after a certain hour and mentally prepared him for sleep. It is thought that these situations realised by individuals are effective in increasing sleep quality.

As a result of the psychoeducation programme, when the pre-test and post-test scores of the stress level perceived by the individuals with cancer in the experimental group were examined, it was seen

that the stress perceived by the individuals decreased, while the stress perceived by the individuals in the control group increased, but this was not statistically significant.

Individuals with cancer enter a process in which they experience intense stress upon diagnosis. Eş and Beydağ (2022); Pakyüz et al. (2019); Li et al. (2015); Miaskowski et al. (2018) found that the stress level perceived by individuals was high in studies conducted with cancer patients.^{4,16,32,33} When the studies on stress are evaluated, it is seen that the stress perceived by the individual due to diagnosis, treatment and hospitalization processes is high.^{1,15} In addition, it was found that individuals experiencing intense stress had problems in adapting to the treatment process and their recovery processes were negatively affected.^{16,17} The fact that cancer is a crisis situation, and that the individual tries to cope with the symptoms caused by stress and the stress itself while dealing with the treatment process, is a very heavy burden. This situation shows the importance of approaches such as psychoeducational intervention to reduce the stress of the individual with cancer.

When the relationship between the pre-test perceived stress level of the experimental and control groups of individuals with cancer was examined, it was determined that the psychoeducation given to the experimental group provided a certain level of reduction in the mean perceived stress score. Boesen et al. (2005) found that the intervention to reduce the stress of individuals with cancer decreased the stress of individuals.³⁴ When this study was compared with the training we provided for stress, it was determined that the interventions made to individuals reduced stress, and it is seen that our study is similar to the literature in this respect. This result is an answer to our second research question.

In order to reduce the perceived stress in individuals with cancer, training was planned and implemented in line with certain steps. In the first session of the psychoeducation programme, general information about cancer was given, individuals with cancer were asked to define cancer, to have information about the treatment they received, and about the treatments they used.

Incorrect ideas about cancer were pointed out. In particular, the perception of cancer as death, and the thought that everyone who has cancer will surely die, were discussed under the title "Does cancer have the same effect on everyone?". Talking about these situations that cause individuals with cancer to experience intense stress has enabled individuals to express their feelings better, to replace the incorrect ideas they have formed in their minds with more accurate ones and to learn that cancer can be cured with the right approach and struggle, and this is thought to be effective in reducing the stress perceived by patients.

One of the issues that is as important as the individual's ability to define cancer is the ability to define the stress caused by cancer and to cope with stress. Changing the perception of stress, which constitutes the second stage of education, is a very important factor in symptom management, treatment compliance and coping with cancer. Individuals with cancer were educated about the definition of stress, the factors that cause stress, the physical, social and psychological symptoms of stress, and certain approaches to coping with stress and relaxation were shown to the patient. In addition, the patient was spoken with to discover their ways of coping with stress in the past, and the possibility of using these methods to respond to stress caused by cancer was discussed with the patient. It is thought that recognising the stress that occurs at certain times, using methods such as respiratory exercises recommended to the patient to cope with stress, and applying their methods of coping with stress from the past are effective in reducing the stress perceived by individuals with cancer.

Limitations

This study has more than one limitation. Firstly, since the study was conducted in a single hospital, the results were limited to this hospital. Secondly, since the region has various languages, there were difficulties in communication with the participants. Patients with whom communication could not be established due to language differences were excluded from the study.

Conclusions and Recommendations

As a result of the study, it was determined that the psychoeducation programme applied to cancer patients provided positive changes in the sleep quality and perceived stress level of the patients. It is thought that these changes occur with the effect of the sections of the study including; correcting wrong facts about cancer, does cancer have the same effect on everyone, sleep hygiene, and coping strategies with stress. In this context;

- It is very important to evaluate individuals diagnosed with cancer biopsychosocially in certain periods and to determine their needs during the diagnosis and treatment process.
- Designing individual-specific programmes for the needs identified in individuals diagnosed with cancer, and in these programmes;
- Identification of stressors, teaching effective coping strategies, and relaxation exercises to reduce stress,
- Individual-specific sleep hygiene trainings should be given in order to improve sleep quality.
- It is thought that it is necessary to develop new and effective interventions using different therapeutic techniques with a larger sample and population size for the needs of individuals diagnosed with cancer and to implement these interventions with experimental studies.

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ISSN: 1557-7112