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Social Support Levels and Coping Styles with Stress of Cancer Patients Planned for Stem Cell Transplantation**

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ABSTRACT:
Purpose: Hematopoietic stem cell transplantation (HSCT) is an important treatment modality used in many benign and malignant diseases today. However, it can negatively affect life due to its side effects and increase the stress level of patients and their need for social support. In the literature, there is a need for studies about the coping styles and social support levels of cancer patients who are planning to have stem cell transplantation. This study was carried out to determine the social support levels and the styles of coping with stress of cancer patients with planned stem cell transplantation and to determine the relationship between them.
Material and Methods: A total of 68 cancer patients participated in this study, which was planned with descriptive and correlational design. The "Patient Information Form", "Multidimensional Scale of Perceived Social Support" and "Styles of Coping with Stress" were used to collect data.
Results: Cancer patients with planned stem cell transplantation perceived social support most from their significant other. Positive attitudes of the patients (self-confident, optimistic) in coping with stress were at high level, and negative attitudes (desperate, submissive, seeking social support) were at moderate level. As the age of the patients increased, their approach to seeking social support decreased ($r=-0.240$; $p=0.049$). The social lives of the patients were affected more compared to their work and family life during the disease, and those living in the nuclear family used positive approaches more in coping with stress ($p<0.05$). It was observed that as the social support perceived by the patients from family and significant other increased, they used more positive stress coping styles.
Conclusion: Social support and coping with stress seem to be two important factors for cancer patients who are scheduled for stem cell transplantation. Patients and their families should be informed about the process and their active participation in nursing care should be ensured, and they should be helped to cope more effectively with the stress they experience due to transplantation.
Keywords: *Patient, Hematopoietic Stem Cell Transplantation, Cancer, Social Support, Coping with Stress*

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INTRODUCTION

All living cells originate from stem cells, and stem cells can differentiate into other cells, renew themselves and reproduce. Stem cells include cells with different structures. They are classified in two basic groups as embryonic and adult type stem cells according to their location in the body of the organism. According to their ability to differentiate and develop into other cells, they are divided into five different categories as pluripotent, totipotent, multipotent, unipotent or oligopotent (Ören, 2019). Hematopoietic stem cells are examples of multipotent stem cells, and multipotent stem cells differentiate in only one of the embryonic development layers and form adult cells with self-renewal properties in other layers (Avcılar et al.,

2018). Today, the main feature of hematopoietic stem cells that is accepted and distinguishes them from other hematopoietic stem cells is their pluripotency (Tokdemir, 2019). Stem cells are obtained from many different sources. Today, stem cells isolated from bone marrow, peripheral blood and cord blood are used in hematopoietic stem cell transplantation (HSCT) (Kuruca et al., 2019). HSCT may be autologous and allogeneic. As the first step in autologous hematopoietic stem cell transplantation (OHSCT), the mobilization of stem cells from bone marrow to the peripheral blood is provided by an injection of granulocyte stimulating factor (G-CSF). Then, sufficient amounts of stem cells are collected from the patient's own marrow or peripheral blood, subjected to apheresis, frozen (cryopreservation) and stored to be given to the patient. After the patient is given high dose therapy (HDT), in which chemotherapy drugs are used, the processed stem cells are infused back into the patient as a final step (Koçubaba & Tekgündüz, 2020; Öztürk et al., 2018; Öztürk & Kutlutürkan, 2018). In allogeneic hematopoietic stem cell transplantation (AHSCT), after the removal of the recipient myeloid and immune system cells with chemotherapy or radiotherapy, the stem cells obtained from a donor are placed in the bone marrow (Yüksel, 2018). A human leukocyte antigen (HLA) compatible donor is required for AHSCT. First of all, compatibility (6≤6) is checked if the patient has a sibling. Patient and donor preparation are carried out in coordination. On the day of transplantation, a central venous catheter is inserted into the patient and a preparation regimen including HDT or radiotherapy in addition to treatment is applied (Koçubaba & Tekgündüz, 2020).

Social support is the degree to which a person benefits from social resources through the individuals they can trust around them, and it is a mechanism that protects the individual against mental as well as physical dangers. Social support consists of different components such as emotional support, instrumental support, information and trust support. Emotional support contributes to the individual's ability to cope with stress factors spiritually and thus to increase the strength of endurance. The physical assistance that the individual needs in their daily work for which they are responsible is provided by instrumental support. Information and trust support helps other people who have experienced a similar situation to cope with the situation and explains how they can increase their level of control about the disease (Aksoy & Çevik, 2021; Yiğitbaş et al., 2019) Perceived social support, on the other hand, defines the individual's observation of the extent to which resources support social relations established with others. Perceived social support is effective in eliminating the factors that cause stress; thus, it improves peoples' psychological state (Yıldız & Dirik 2019). People with strong social support resources and high levels of social support are happier and more productive (Çetinkaya & Korkmaz, 2019).

Stress is all behaviors exhibited in order to adapt the personal characteristics and emotional state of the individual to the events that they witness in their environment or the factors that cause stress. Factors causing stress include the meaning attributed to an event, which may differ depending on the individual's characteristics like age, gender, cultural characteristics, social and economic status in society, family relations, coping mechanisms used by the individual when faced with stress, and previous experiences (Özel & Karabulut, 2018). HSCT has an important place in cancer treatment. The patient is faced with a process with many negative conditions from the first day they are diagnosed with cancer to the end of the transplantation process and in the post-transplant period. Individuals who encounter cancer stress seek support by turning to social support resources. Lack or absence of social support increases the stress of individuals (Aksoy & Çevik, 2021; Yiğitbaş et al., 2019). An individual under stress due to cancer and transplantation may need to identify and improve their coping skills. Coping skills of cancer patients should be improved and stress levels should be minimized through social support resources and managed with appropriate interventions (Özbaş & Yıldırım, 2020; Sürme, 2019; Yıldırım, 2020). There are studies in the literature examining the social support levels and coping styles of cancer patients, but no such study was found for cancer patients who are under stress due to stem cell transplantation.

MATERIAL and METHODS

Purpose and Type of the Study

This study, which was planned with descriptive and relationship-seeking design, was carried out between January 2020 - May 2020 in order to determine the social support levels and stress coping styles of cancer patients with planned stem cell transplantation, and to examine the relationship between them.

Sampling and Participant

The population of the study consisted of cancer patients who were hospitalized in the hematology service of a hospital in Istanbul with planned HSCT. The sample of the study consisted of patients who were treated in the hematology service for stem cell transplantation and met the inclusion criteria of the study. The sample size was determined as at least 64 patients, taking the effect value as 0.845 according to the reference study (Avcı & Doğan, 2014) using the power analysis method (G*Power Version 3.1) for a study with 95% confidence interval and 5% significance level. Cancer patients aged between 18-65 years, without communication problems, who voluntarily agreed to participate in the study, and with planned bone marrow or peripheral blood-derived stem cell transplantation were included in the study. Cancer patients with planned cord blood-derived stem cell transplantation were not included in the study. In order to inform the participants, the Informed Consent Form, prepared by the researcher in accordance with the Declaration of Helsinki, was read and signed by the patient before the interview. For the research, ethics committee approval (21.12.2020 - 2020\25) was obtained from the Clinical Research Ethics Committee of Sadi Konuk Training and Research Hospital.

Data Collection Tools

Patient Information Form; In the 11-item form prepared by the researcher using the literature (Aksan & Gizir 2019; İsmailoğlu &Khorshid 2016), there were 7 questions about the patient's socio-demographic structure, age, gender, educational status, marital status, presence of children, occupation, and family type. There were 4 questions regarding the patient's medical condition, diagnosis, planned transplant type, and life-affirming areas of the disease.

Multidimensional Scale of Perceived Social Support (MSPSS): This was developed by Zimet et al., in 1988 to subjectively evaluate the level of social support (Zimet et al., 1988). Eker et al., conducted the Turkish validity and reliability study and the Cronbach-α coefficient of the scale was found to be 0.89. The scale, which is a seven-point Likert type, contains a total of 12 items. The structure of the scale includes the dimensions of Perceived Social Support from Family (Family-PSS) (3rd, 4th, 8th and 11th items), Perceived Social Support from Friends (Friend-PSS) (6th, 7th, 9th and 12th items) and Perceived Social Support from significant other (Significant Other-PSS) dimension (1st, 2nd, 5th and 10th items). The answers are evaluated by scoring between 1 (definitely no) and 7 (definitely yes) in a seven-point Likert type rating. Each of the scale dimensions is evaluated by the total score for the scale items. The lowest total score for each dimension on the scale is 4, and the highest is 28; the total score of the scale is lowest 12 and highest 84. A high score indicates high perceived social support (Eker, Arkar, & Yaldız, 2001).

Styles of Coping with Stress Scale (SCSS): This was developed by Lazarus and Folkman in 1980 to determine the coping behaviors of individuals in cases of stress (Lazarus & Folkman, 1984). The Turkish validity and reliability of the 30-item shortened form of the scale was performed by Hisli and Durak in 1995. The four-point Likert-type scale consists of 30 items. The scale consists of five dimensions: Self-Confident Approach (SCA), Optimistic Approach (OA), Hopeless Approach (HA), Submissive Approach (SA) and Social Support-Seeking Approach (SSSA). The total score of the scale is not calculated, and the scores for each dimension are calculated separately. In the scoring of the scale, the scoring for the 1st and 9th items is reversed with 0% = 3 points, 30% = 2 points, 70% = 1 point, 100% = 0 points. For the other items, the scoring is 0% = 0 points, % 30=1 points, 70%=2 points, 100%=3 points (Hisli & Durak, 1995; Pakyüz et al., 2019).

Data Collection

Patients who met the inclusion criteria were determined by visiting the patients in the Hematology Clinic between 08.00 and 16.00 three days a week. Each patient was interviewed by the researcher in the patient's room and informed about the purpose of the study, the principle of voluntary participation and the confidentiality of personal information, and written consent was obtained from the patient. In line with the measures taken during the pandemic, a face-to-face interview was held and data were collected by applying the Patient Information Form, MSPSS, and SCSS. The interview with each patient lasted approximately 25-30 minutes.

Statistical Analysis

Statistical analysis of the data was performed using the SPSS-22 program. Categorical variables in the study are presented as numbers and percentages, and numerical variables are presented as mean and standard deviation. For the analysis of the difference between the two groups, the independent sample t-test was used for data with normal distribution, and the Mann Whitney U test was used for the data without normal distribution. For the analysis of differences between more than two groups, one-way analysis of variance (ANOVA) were used for those with normal distribution and Kruskal Wallis test for those who without normal distribution. The relationships between the scales and their dimensions were examined with correlation and regression analyses. The Pearson correlation test was used in cases that showed compliance with normal distribution, and the Spearman correlation test was used in cases that did not comply with normal distribution to examine the relationship between two numerical variables. The Cronbach alpha coefficient was used for scale reliability. In this study, the Cronbach alpha internal consistency coefficient for the MSPSS was 0.857 and for the SCSS was 0.810. Both scales were found to be reliable scales.

Ethical Approval

In order to inform the participants, the Informed Consent Form, prepared by the researcher in accordance with the Declaration of Helsinki, was read and signed by the patient before the interview. For the research, ethics committee approval (21.12.2020 - 2020\25) was obtained from the Clinical Research Ethics Committee of a Training and Research Hospital in Istanbul for the study.

RESULTS

The mean age of the patients was 45.55 ± 11.57 years, with the lowest age 19 and the highest age 64. Of participants, 36.8% (n=25) were female and 63.2% (n=43) were male. It was determined that 76.5% (n=52) of the patients were married, 75% (n=51) had children, and 72.1% (n=49) lived in a nuclear family. When the areas of the disease affecting the life of the patients were questioned, 61.8% (n=42) of the patients were affected in terms of work status during the illness, family life was affected for 92.6% (n=63), and social life was affected for 89.7% (n=61). It was determined that 85.3% of the patients (n=58) had allogeneic transplantation planned and the type of transplantation planned for all patients was peripheral stem cell transplantation (Table 1). Of patients, 30.9% (n=21) had acute myeloid leukemia, 19.2% (n=13) had acute lymphoblastic leukemia, 16.2% (n=11) had non-Hodgkin lymphoma, 4.3% (n=3) had Hodgkin lymphoma, 16.2% (n=11) had multiple myeloma, and 13.2% (n=9) had other diseases (myelodysplastic syndrome, recurrence, etc.).

The mean MSPSS value of the patients was 62.33±15.40. Sub-dimension mean scores on the scale were 19.27±6.83 for Family-PSS; 23.48±4.40 points were found for Significant Other-PSS and 19.57±6.50 points for Friend-PSS. The mean scores for the sub-dimensions on the Styles of Coping with Stress Scale were 15.72±3.89 for the SCA dimension; 10.04±3.14 for the OA dimension; 10.60±4.25 for HA dimension; 7.82±4.03 for the SA dimension; and 7.26±1.76 for the SSSA dimension. The mean MSPSS score of the patients who stated that their social life was affected during the disease period was higher than the mean score for patients who stated that their social life was not affected (Table 2).

Patients living in a nuclear family had higher mean scores for SCA and OA, one of the approaches to coping with stress, compared to patients living in an

extended family, while the mean scores for the HA dimension were lower than for patients living in an extended family (Table 3).

In addition, a significant negative correlation was found between the age of the patients and the SSSA dimension of SCSS (r=-0.240; p=0.049) (Table-4).

A statistically significant and positive correlation was found between the OA dimension of SCSS and the total score for MSPSS and the Family-PSS dimension (r=0.263; p=0.030; r=0.282; p=0.020) (Table 5). The relationship between SCSS and MSPSS was evaluated by logistic regression analysis. No correlation was found between the variables.

Table 1. Distribution of Sociodemographic Characteristics of the Patients

Sociodemographic Characteristics		
	Min-Max	**Mean ± SD**
Age	19-64	45.55 ± 11.57
	n	**%**
Sex		
Female	25	36.8
Male	43	63.2
Educational Status		
Primary school	28	41.2
High school	29	42.6
University	11	16.2
Marital Status		
Married	52	76.5
Single	16	23.5
Has a Child		
Yes	51	75.0
No	17	25.0
Family Type		
Nuclear family	49	72.1
Extended family	19	27.9
Area of Life Affected by Disease (Work)		
Yes	42	61.8
No	26	38.2
Area of Life Affected by Disease (Family)		
Yes	63	92.6
No	5	7.4
Area of Life Affected by Disease (Social Life)		
Yes	61	89.7
No	7	10.3
Planned Transplantation Type		
Autologous Transplant	10	14.7
Allogeneic Transplant	58	85.3
Diagnosis		
Acute Myeloid Leukemia	21	30.9
Acute Lymphoblastic Leukemia	13	19.2
Non-Hodgkin Lymphoma	11	16.2
Hodgkin Lymphoma	3	4.3
Multiple Myeloma	11	16.2
Other Diseases (myelodysplastic syndrome, recurrence, etc.)	9	13.2

SD:Standard Deviation; n:number of individual

Table 2. Relationships Between Sociodemographic Characteristics of Patients and Perceived Social Support Levels

Sociodemographic Characteristics	Family-PSS	Significant Other-PSS	Friend-PSS	MSPSS
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Sex				
Female	19.36 ± 7.29	23.92 ± 4.38	19.60 ± 6.57	62.88 ± 15.61
Male	19.23 ± 6.64	23.23 ± 4.44	19.55 ± 6.53	62.02 ± 15.46
Statistics	t=0.074; p=0.942	t=0.618; p=0.539	t=0.025; p=0.980	t=0.220; p=0.827
Education Status				
Primary School	18.67 ± 7.79	24.14 ± 5.10	19.25 ± 7.09	62.07 ± 17.63
High School	19.96 ± 6.16	23.58 ± 3.67	20.62 ± 5.91	64.17 ± 13.48
University	19.00 ± 6.32	21.54 ± 4.03	17.63 ± 6.45	58.18 ± 14.58
Statistics	F=0.258; p=0.774	F=1.404; p=0.253	F=0.897; p=0.413	F=0.603; p=0.550
Marital Status				
Married	19.32 ± 7.15	23.92 ± 4.39	19.86 ± 6.45	63.11 ± 15.80
Single	19.12 ± 5.88	22.06 ± 4.25	18.62 ± 6.77	59.81 ± 14.23
Statistics	t=0.103; p=0.919	t=1.491; p=0.141	t=0.665; p=0.509	t=0.747; p=0.457
Has a Child				
Yes	18.94 ± 7.01	23.72 ± 4.36	19.54 ± 6.40	62.21 ± 15.51
No	20.29 ± 6.37	22.76 ± 4.56	19.64 ± 6.98	62.70 ± 15.54
Statistics	t=-0.704; p=0.484	t=0.777; p=0.440	t=-0.053; p=0.958	t=-0.113; p=0.911
Family type				
Nuclear Family	20.22 ± 6.23	23.85 ± 3.55	20.32 ± 6.07	64.40 ± 13.29
Extended Family	16.84 ± 7.83	22.52 ± 6.09	17.63 ± 7.31	57.00 ± 19.24
Statistics	t=1.865; p=0.067	t=1.120; p=0.380	t=1.550; p=0.126	t=1.809; p=0.075
Area of Life Affected by Disease-Work				
Yes	19.02 ± 6.99	23.07 ± 4.39	18.97 ± 6.56	61.07 ± 15.67
No	19.69 ± 6.69	24.15 ± 4.41	20.53 ± 6.40	64.38 ± 15.04
Statistics	t=-0.389; p=0.698	t=-0.985; p=0.328	t=-0.963; p=0.339	t=-0.860; p=0.393
Area of Life Affected by Disease-Family				
Yes	19.14 ± 6.88	23.46 ± 4.47	19.27 ± 6.54	61.87 ± 15.62
No	21.00 ± 6.63	23.80 ± 3.70	23.40 ± 4.87	68.20 ± 12.09
Statistics	t=-0.582; p=0.563	t=-0.165; p=0.870	t=-1.377; p=0.173	t=-0.882; p=0.381
Area of Life Affected by Disease-Social Life				
Yes	19.73 ± 6.69	23.96 ± 3.84	20.06 ± 6.30	63.77 ± 14.47
No	15.28 ± 7.27	19.28 ± 6.77	15.28 ± 7.06	49.85 ± 18.77
Statistics	t=1.653; p=0.103	t=2.797; p=0.119	t=1.877; p=0.065	**t=2.337; p=0.022**
Transplant Type				
Autologous Transplant	18.60 ± 5.19	23.70 ± 2.05	18.00 ± 5.65	60.30 ± 11.19
Allogeneic Transplant	19.39 ± 7.11	23.44 ± 4.70	19.84 ± 6.64	62.69 ± 16.07
Statistics	t=-0.338; p=0.736	t=0.166; p=0.869	t=-0.827; p=0.411	t=-0.450; p=0.654

PSS: Perceived Social Support; MSPSS: Multidimensional Scale of Perceived Social Support; p: Level of Significance; t:Independent Sample t-test; F:One Way ANOVA Test; SD: Standard Deviation

Table 3. Relationships Between the Sociodemographic Characteristics of Patients and Styles of Coping with Stress

		SCA	OA	HA	SA	SSSA
Sociodemographic Characteristics		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Sex	Female	16.28 ± 4.78	9.84 ± 4.03	10.92 ± 3.78	7.76 ± 4.53	7.80 ± 2.04
	Male	15.39 ± 3.28	10.16 ± 2.52	10.41 ± 4.53	7.86 ± 3.76	8.25 ± 2.15
	Statistics	t=0.902; p=0.418	t=-0.406; p=0.720	t=0.466; p=0.643	t=-0.098; p=0.922	t=-0.858; p=0.394
Education Status	Primary School	16.42 ± 3.97	10.00 ± 3.04	11.42 ± 3.44	9.21 ± 3.72	8.35 ± 1.98
	High School	15.34 ± 3.84	10.27 ± 3.33	10.06 ± 4.66	6.75 ± 4.13	7.93 ± 2.21
	University	14.90 ± 3.85	9.54 ± 3.07	9.90 ± 4.96	7.09 ± 3.75	7.81 ± 2.22
	Statistics	F=0.833; p=0.439	F=0.215; p=0.807	F=0.901; p=0.411	F=3.036; p=0.055	F=0.392; p=0.677
Marital Status	Married	16.03 ± 4.16	10.32 ± 3.08	11.03 ± 4.07	7.86 ± 4.15	8.28 ± 2.02
	Single	14.68 ± 2.67	9.12 ± 3.24	9.18 ± 4.63	7.68 ± 3.71	7.43 ± 2.30
	Statistics	t=1.218; p=0.228	t=1.347; p=0.183	t=1.539; p=0.129	t=0.153; p=0.879	t=1.423; p=0.159
Has a Child	Yes	16.07 ± 4.11	10.29 ± 3.04	10.96 ± 4.13	7.88 ± 4.18	8.23 ± 2.00
	No	14.64 ± 2.99	9.29 ± 3.38	9.52 ± 4.54	7.64 ± 3.63	7.64 ± 2.39
	Statistics	t=1.320; p=0.191	t=1.139; p=0.259	t=1.207; p=0.232	t=0.207; p=0.837	t=0.997; p=0.323
Family Type	Nuclear Family	16.75 ± 2.89	10.55 ± 2.81	9.91 ± 4.37	8.08 ± 3.98	8.18 ± 2.18
	Extended Family	13.05 ± 4.87	8.73 ± 3.61	12.36 ± 3.40	7.15 ± 4.18	7.84 ± 1.92
	Statistics	**t=3.868; p=0.005**	**t=2.198; p=0.031**	**t=-2.193; p=0.032**	t=0.846; p=0.400	t=0.597; p=0.553
Area of Life Affected by Disease (Work)	Yes	15.66 ± 4.10	10.09 ± 3.01	10.92 ± 4.44	7.66 ± 3.68	8.11 ± 2.21
	No	15.80 ± 3.61	9.96 ± 3.38	10.07 ± 3.94	8.07 ± 4.60	8.03 ± 1.96
	Statistics	t=-0.144; p=0.886	t=0.169; p=0.866	t=0.801; p=0.426	t=-0.405; p=0.686	t=0.152; p=0.880
Area of Life Affected by Disease (Family)	Yes	15.77 ± 3.97	9.98 ± 3.19	10.50 ± 4.35	7.69 ± 4.07	8.15 ± 2.13
	No	15.00 ± 2.91	10.80 ± 2.58	11.80 ± 2.58	9.40 ± 3.36	7.20 ± 1.64
	Statistics	t=0.427; p=0.671	t=-0.556; p=0.580	t=-0.651; p=0.517	t=-0.908; p=0.367	t=0.979; p=0.331
Area of Life Affected by Disease (Social Life)	Yes	15.62 ± 4.05	10.13 ± 3.11	10.88 ± 4.24	7.83 ± 3.94	8.11 ± 2.13
	No	16.57 ± 1.90	9.28 ± 3.49	8.14 ± 3.67	7.71 ± 5.09	7.85 ± 2.03
	Statistics	t=-0.608; p=0.304	t=0.672; p=0.504	t=1.637; p=0.106	t=0.075; p=0.940	t=0.304; p=0.762
Transplantation Type	Autologous Transplant	14.60 ± 4.35	8.70 ± 3.43	9.70 ± 2.58	6.70 ± 4.29	7.40 ± 1.89
	Allogeneic Transplant	15.91 ± 3.81	10.27 ± 3.06	10.75 ± 4.47	8.01 ± 3.98	8.20 ± 2.13
	Statistics	t=-0.985; p=0.328	t=-1.478; p=0.144	t=-0.725; p=0.471	t=-0.954; p=0.344	t=-1.121; p=0.267

SCA: Self-Confident Approach; OA:Optimistic Approach; HA: Hopeless Approach; SA: Submissive Approach; SSSA: Seeking Social Support Approach; p: Level of Significance; t:Independent Sample t-test; F:One Way ANOVA Test; SD:Standard Deviation

Table 4. Correlation Between Age of the Patients and Styles of Coping with Stress

		SCA	OA	HA	SA	SSSA
Age	r	0.163	0.060	0.093	0.059	-0.240
	p	0.185	0.624	0.453	0.630	**0.049**

SCA: Self-Confident Approach; OA:Optimistic Approach; HA: Hopeless Approach; SA: Submissive Approach; SSSA: Seeking Social Support Approach; r: Correlation Coefficient; p: Level of Significance

Table 5. Correlation Analysis Results Between Multidimensional Scale of Perceived Social Support and Coping Styles with Stress Scores

SCS Dimensions		Family-PSS	Significant Other-PSS	Friend-PSS	MSPSS
SCA	r	0.125	0.084	0.148	0.142
	p	0.309	0.497	0.229	0.248
OA	r	0.282	0.146	0.228	0.263
	p	**0.020**	0.234	0.062	**0.030**
HA	r	0.103	0.194	0.134	0.157
	p	0.405	0.113	0.277	0.200
SA	r	0.080	0.134	0.081	0.108
	p	0.517	0.274	0.512	0.381
SSSA	r	0.059	0.074	-0.063	0.021
	p	0.630	0.548	0.612	0.864

SCS: Stress-Coping Styles; SCA: Self-Confident Approach; OA: Optimistic Approach; HA: Hopeless Approach; SA: Submissive Approach SSSA: Seeking Social Support Approach; PSS: Perceived Social Support; MSPSS: Multidimensional Scale of Perceived Social Support; r: Correlation Coefficient; p: Level of Significance

DISCUSSION

In this study, the social life of patients with a high level of perceived social support was affected more than their work and family lives due to the disease. The social life of patients who are socially active and receive adequate support is more disrupted during the disease process. Calderón et al., (2021) reported that as age increases, perceived social support decreases, and people over the age of 65 have lower levels of perceived social support. There was no relationship between gender and perceived social support in this study. Although women need more emotional support, the number of female patients was less than the number of male patients. Rutkowski et al., (2018) stated that individuals under the age of 50 need social support and social support more, not only from health professionals, but also from family and significant others. In another study, cancer patients mostly preferred to receive social support from physicians, family and friends. It was determined that they prefer other social support sources such as psychologists, social workers and clergy less (Finck et al., 2018). It is noteworthy that the social support perceived by the patients is not related to the planned transplant type. This may be due to the fact that there is no difference in terms of the patient, since both transplantation processes go through similar stages.

In this study, patients living in nuclear families were able to cope with stress more effectively and felt less helpless and hopeless when faced with stress. This can be explained by the fact that in the nuclear family, the care and support that family members show to each other in case of illness is not distributed among the older members of the family as in an extended family. In a study of 7170 patients in which the relationship between pre-transplant depression and post-transplant survival was investigated, being young and stress related to cancer predicted anxiety symptoms (Wang et al., 2020). In a study conducted with 100 female patients with breast cancer, as age increased women had difficulty coping with stress (Özdemir & Arslan 2018). In this study, as the age of the patients increased, their reflectance of the approach to seeking social support, which is one of the ways of coping with stress, decreased. This can be explained by the fact that as age increases, the individual withdraws to their inner world and isolates themselves from those around them, the interest and support they receive from family members decreases, and the desire to be self-sufficient increases in old age.

In this study, cancer patients with planned HSCT perceived a high level of social support. It is noteworthy that significant other support, which is one of the components of social support, is at a higher level than family and friend support. The reason for this situation is that the significant other

is closest to the individual and the closest supporter is the spouse of the individual as the family type in our society gradually converts to the nuclear family. The fact that most of the patients were married supports the high level of social support they perceive from their spouses. In a study conducted by Çidem & Ersin (2019) with 316 female breast cancer patients, the social support perceived by the patients was moderate, social support perceptions from family were high, and the social support perceptions from significant other and friends were moderate. In the study conducted with patients with lung cancer by Düzen & Göktaş (2021), the social support perceptions of the patients were moderate, the social support perceptions from family were high, and the social support perceptions from significant other and friends were low. Our study results are in parallel with the literature. The fact that the perceived social support from family in the study was different from the literature may be due to the fact that the proportion of patients with nuclear family type in this study was lower than in other studies. In addition, since the COVID-19 pandemic continued during the time the data was collected, people stayed at home due to periodic and long-term curfews. It is thought that this situation constituted an important source of support for patients as family members stayed together at home for a long time.

In the study by Pakyüz, Çaydam & Şahin (2019), patients with cancer who received chemotherapy had high SCA levels; OA and SSSA levels were moderate; and HA and SA levels were shown to be low. In the study by Avcı & Doğan (2014) with cancer patients, one of the ways of coping with stress of SCA was high, while OA, SA and SSSA levels were moderate and the level of HA was low. In this study, the levels of SCA, SA and SSSA, which are among the ways of coping with stress, among cancer patients with planned HSCT were in line with the literature; however, OA and HA levels were higher than the literature.

Therefore, this study is partially compatible with the literature. However, it is noteworthy that patients had more optimistic and desperate approaches than the literature. The reason for this situation may be due to the difficulties experienced during the disease process. With the developments in medical science, the life expectancy of patients has increased and their quality of life has decreased due to illness, intensive treatments and transplantation, and patients experience feelings of anxiety, fear and hopelessness (Madani et al., 2018). In this case, it is normal for patients to exhibit both positive and negative approaches to coping with stress at the same time. In this study, the high level of spiritual support from the family is important for the individual to cope effectively with stressful situations and to display a more optimistic attitude when faced with stress. In a descriptive and cross-sectional study conducted with 100 female patients with breast cancer, higher perceived social support from the family was associated with more effective coping with stress among patients (Özdemir & Arslan, 2018).

CONCLUSION

Cancer patients with planned stem cell transplantation perceive social support most from significant other. They used positive approaches more in coping with stress; however, it was observed that they also had negative approaches at a higher level compared to the literature. As the social support perceived by the patients from family and significant other increases, their ways of coping with stress become more positive. Before HSCT, stress levels should be taken into account and social support resources should be included in the process of nurses supporting patients in coping with stress. It is important to inform the patient and family, since the patient's knowledge of what awaits them during the transplant process and what they will encounter can reduce the level of stress. The patient and their family should be informed about the HSCT process, nurses should help prepare them psychologically, and, if necessary, refer the patients to a specialist (psychiatrist, psychologist, moral support specialist, etc.) for professional support.

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Conflict of Interest

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