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Social support and quality of life in a group of cancer patients (Ankara, Turkey)*

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Background/aim: Cancer has become an important public health challenge all around the world. Though the demographic and clinical features of cancer patients are well documented in Turkey, the establishment of social support networks has been somewhat neglected. The aim of the study was to assess cancer patients' perceived social support and quality of life characteristics.

Materials and methods: The Multidimensional Perceived Social Support Scale, European Organization of Research and Treatment of Cancer Quality of Life Questionnaire, and Turkish version of the EUROHIS measurements were obtained from the study group. Associations between the scores and sociodemographic variables of the patients were evaluated. Determination of the best predictors that affect social support perception scores was performed by multiple linear regression analysis.

Results: A total of 364 patients (217 females, 147 males) were analyzed. Regarding the mean scores of perceived social support, statistically significant differences were found between education, perceived economic status, and ECOG groups ($P < 0.001$).

Conclusion: The best predictors that have an effect on perceived social support need to be studied in depth with further research.

Key words: Cancer patients, quality of life and social support, WHOQOL-8.Tr Quality of Life Scale, EORTC QLQ-C30 Quality of Life Scale, Multidimensional Perceived Social Support Scale

1. Introduction

There were 14.1 million new cancer cases, 8.2 million cancer deaths, and 32.6 million people living with cancer (within 5 years of diagnosis) in 2012 worldwide (1). Cancer represents a tremendous burden on patients, families, and societies (2). Cancer is firmly at the forefront of the Turkish health agenda with a total cancer incidence of 269.7 in males and 173.3 in females per 100,000 world standard population (3,4).

Treatment methods, symptom control, and the sustaining of physiological, psychological, and social well-being are some important issues that individuals with cancer must tackle. From the point of view of preventing and coping with physical and mental problems related to illness and treatment, positive health behaviors, improvement of self-care, strengthening of social support networks, and provision of counseling, information, and education are considered to be positive factors regarding quality of life and perceived social support.

Social support is defined as the existence or availability of people who let individuals know that they care about, value, and love them. The link between social support and psychological well-being is well established (5), and much of the research conducted suggests a role for social support in a number of diseases (i.e. cardiovascular disorders, cancer, infectious diseases) (6). During a hard and complex illness like cancer, perceived support from social relationships is very important (7,8).

This study aims to evaluate the perceived social support and quality of life measures of the participants with respect to demographic and illness-related characteristics.

2. Materials and methods

This descriptive study was carried out in the inpatient and outpatient chemotherapy and radiotherapy units of the medical oncology departments of three hospitals located in Ankara: Ankara University Faculty of Medicine's hospitals on two different campuses, Ibn-i Sina Hospital (902 beds) and Cebeci Research Hospital (1011 beds); and the Dr.

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Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital (600 beds).

Cancer patients who attended these research hospitals and met the inclusion criteria (were older than 18 years of age; had breast, colorectal, lung, or gastric cancer diagnosis; were cognitively able to communicate adequately; and verbally provided informed consent) were enrolled in the study. Data were collected between March and August 2013 with face-to-face interviews.

The study was approved by the Research Ethics Board of Ankara University and also by the Ankara Province 2nd Region General Secretariat of the Association of Public Hospitals.

The questionnaire consisted of questions related to sociodemographic and illness characteristics, the Multidimensional Scale of Perceived Social Support (MSPSS), the European Organization of Research and Treatment of Cancer Core Quality of Life Questionnaire (EORTC QLQ-C30), and the WHOQOL-8.Tr quality of life scale.

The MSPSS is a short instrument (12 items), developed to assess perceived social support (7). The validity and reliability of the Turkish version were established by Eker et al. (9). Reliability scores of the scale and the 3 subscales are high (0.92 in total). Each item has a 7-point Likert-type response format ranging from "strongly agree" (7 points) to "strongly disagree" (1 point). Higher points indicate perceptions of higher social support (ranging from 12 to 84 total points). The subscales of the MSPSS refer to 3 sources of support: family, friends, and special persons. The "special person" subscale measures combined perceptions of support from friends and family (boyfriend/girlfriend, spouse, teacher, counselor, minister, psychotherapist, and others) (9) .

The EORTC QLQ-C30 is a questionnaire developed to assess the quality of life of cancer patients. With the EORTC QLQ-C30 symptoms are assessed on a four-point verbal rating scale by the descriptors "not at all", "a little", "quite a bit", and "very much" (10). The Turkish form was evaluated by Guzelant et al. (11). This scale has 30 items and 3 subscales: general wellness, functional difficulties, and symptom control. High scores of general wellness mean that the quality of life is high. Low scores in functional difficulties and symptoms mean that the quality of life is high.

The Europe Health Impact Scale (EUROHIS) is an index measure formed by selecting 8 items from the core WHOQOL scale. The internal consistency of the Turkish version of the EUROHIS-Tr (WHOQOL-8.Tr) is acceptable ($\alpha = 0.85$) (12).

2.1. Statistical analysis

Data analysis was performed using SPSS 11.5 for Windows (SPSS Inc., Chicago, IL, United States). Data are shown as mean ± SD.

While the differences between groups were compared by Mann–Whitney U test, the Kruskal–Wallis test was applied for comparisons of more than two groups. When the P-values from Kruskal–Wallis test statistics were statistically significant, Conover's nonparametric multiple comparison test was used to understand which groups differed from the others. Degrees of association between metric discrete variables were evaluated by Spearman's rank correlation analyses.

Determination of the best predictors that have an effect on perceived social support scores was performed by multiple linear regression analysis. Any variable whose univariate test had a P-value of <0.05 was accepted as a candidate for the multivariable model. The coefficient of regression and 95% confidence interval for each independent factor were also calculated. Logarithmic transformation for social support perception scores was used in regression analysis because of abnormally distributed data.

$P < 0.05$ was considered statistically significant.

3. Results

A total of 364 patients (217 females, 147 males) were analyzed. The mean age was 56.3 ± 10.3 years (range: 25–90), and the group was dominated by married individuals (n = 299, 82.1%), by females (n = 217, 59.6%), by outpatient therapy unit patients (53.0%), and by primary school graduates (51.9%). Housewives formed 50.8% of the group. Regarding self-perceptions, 54.7% declared themselves to be in the middle income group. The most common primary cancer site was the breast (n = 143, 39.3%), followed by colorectal (23.9%), lung (20.6%), and gastric (16.2%) cancers, in that order.

Over 66% (66.2%) of the study participants reported less than 1 year since diagnosis. The Eastern Cooperative Oncology Group (ECOG) performance score of 50.8% was 0 points (meaning that these patients were asymptomatic), 60.2% had no cancer history in the family, 65.9% had had a cancer-related operation, 72.8% reported that they had admitted themselves to hospital primarily by their own means for any disease-related problem, 87.9% reported that they had been informed about the disease and therapy process, 29.7% suggested that the information provided was sufficient, and 76.6% reported that they did not have any care requirements during the last month.

From the point of view of the study group, some of the component causes of the cancer disease were reported to be stress, habits, and unhealthy dietary patterns. More than one-third (35.0%) of the group stated that they had no idea how the disease would develop over time.

The quality of life score was higher in patients with no metastasis. The mean WHOQOL-8.Tr quality of life scale score of the group was 3.5 ± 0.8, whereas the maximum

was 5 points. With respect to mean WHOQOL-8. Tr quality of life scale scores, statistically significant differences ($P < 0.05$) were found in relation to age, marital status, educational level, state of employment, perceived economic status, social environment, time since diagnosis, ECOG performance score status, comorbidity status, information provision status, and perception related to information groups.

The mean EORTC QLQ-C30 scale general well-being score of the group was 55.7 ± 26.6, whereas the maximum is 100. With respect to the mean EORTC QLQ-C30 scale general well-being scores, statistically significant differences ($P < 0.05$) were found related to age, perceived economic status, social environment, state of the cancer (i.e. primary or metastatic), time since diagnosis, ECOG performance score status, and comorbidity status groups.

The mean Global Health Status (GHS) score was 56.7.

The mean Total Perceived Social Support score of the group was 59.4 ± 14.9, whereas the maximum is 84. With respect to the mean Total Perceived Social Support scores, statistically significant differences ($P < 0.05$) were found in relation to marital status, educational level, state of employment, perceived economic status, living alone at home, social environment, and ECOG performance score status groups.

The associations between quality of life score and sex, marital status, previous cancer history, and age were not significant. Statistically significant correlations among mean scores of perceived social support, total WHOQOL-8.Tr score, EORTC QLQ-C30 scale general well-being score, physical subscale score, fatigue and pain item scores of the symptom scale, and financial difficulties scores ($P < 0.001$) were found (Table 1).

Regarding the mean scores of perceived social support, statistically significant differences were found between education, perceived economic status, and ECOG groups ($P < 0.001$) (Table 2).

The best predictor that had an effect on perceived social support scores was perceived economic status (both middle and good-very good economic status) with an ECOG performance score of ≥1 (symptomatic and/or bedridden patients) ($P < 0.001$) (Table 3).

Table 1. Correlation analyses between social support perception and global health/QoL and Symptom Scales (n = 364).

Scale item	Correlation coefficient	P-value
WHOQOL-8.Tr - Total	0.417	<0.001
C-30 General Well-Being	0.339	<0.001
Functional Scales		
Physical	0.276	<0.001
Role	–0.032	0.538
Emotional	0.146	0.005
Cognitive	0.116	0.026
Social	0.139	0.008
Symptom Scales/items		
Fatigue	–0.273	<0.001
Nausea and vomiting	–0.162	0.002
Pain	–0.187	<0.001
Dyspnea	–0.095	0.069
Insomnia	–0.134	0.011
Appetite loss	–0.157	0.003
Constipation	–0.081	0.123
Diarrhea	0.014	0.785
Financial difficulties	–0.174	<0.001

Table 2. Study group's demographic characteristics by mean perceived social support scores (n = 364).

Variable	Frequency	%	Mean SSP	SD	P-value
Age, years*¥					0.174
25–44	51	14.0	56.6	14.8	
45–64	231	63.5	60.4	14.5	
≥65	82	22.5	58.2	16.1	
Sex¥¥					0.113
Female	217	59.6	58.2	15.6	
Male	147	40.4	61.1	13.7	
Education¥					<0.001
Illiterate-literate [a,b,c]	68	18.7	54.8	15.6	
Primary sc gra[a,d]	189	51.9	59.1	15.4	
Middle & High Sc[b,e]	80	22.0	60.8	12.8	
University[c,d,e]	27	7.4	68.7	10.9	
Perceived econ stat¥					<0.001
Very bad & bad[f,g]	74	20.3	50.9	16.1	
Middle[f,h]	199	54.7	60.4	13.9	
Good & very good[g,h]	91	25.0	64.0	13.6	
Regular income¥¥					0.013
Yes	156	42.9	62.0	13.1	
No	208	57.1	57.4	15.9	
Diagnosis¥					0.467
Lung	75	20.6	61.2	14.0	
Breast	143	39.3	57.6	16.4	
Gastric	59	16.2	60.6	13.4	
Colorectal	87	23.9	60.0	14.0	
Living alone¥¥					0.047
Yes	20	5.5	51.2	19.6	
No	344	94.5	59.8	14.5	
ECOG¥¥					<0.001
0	185	50.8	62.8	13.5	
≥1	179	49.2	55.8	15.5	
Time since diagnosis¥					0.118
≤12 months[e]	241	66.2	60.1	15.0	
12–60 months	102	28.0	58.7	14.6	
>60 months[e]	21	5.8	53.8	15.6	
Comorbidity¥¥					0.016
Yes	151	41.5	57.4	15.2	
No	213	58.5	60.8	14.6	
History of chemotherapy¥¥					0.692
No	50	13.7	58.7	14.7	
Yes	314	86.3	59.5	15.0	
Chemotherapy cycles¥					0.860
≤4	188	51.7	59.7	14.9	
>4	126	34.6	59.2	14.8	
No chemotherapy	50	13.7	58.7	15.6	
Type of therapy¥					0.370
Radiotherapy (RT)	62	17.0	58.7	15.2	
Chemotherapy (CT)	220	60.4	59.3	14.7	
RT + CT	51	14.0	62.2	14.7	
Others	31	8.6	56.9	16.3	

*The mean age is 56.3 ± 10.3 (25–90) years.

¥Kruskal–Wallis test.

¥¥Mann–Whitney test.

[a]: Illiterate-literate vs. primary school graduates (P = 0.028).

[b]: Illiterate-literate vs. middle & high school graduates (P = 0.029).

[c]: Illiterate-literate vs. university graduates (P < 0.001).

[d]: Primary school graduates vs. university graduates (P < 0.001).

[e]: Middle & high school graduates vs. university graduates (P = 0.005).

[f]: Very bad & bad vs. middle (P < 0.001).

[g]: Very bad & bad vs. good & very good (P < 0.001).

[h]: Middle vs. good & very good (P = 0.027).

Table 3. The best predictors that affect perceived social support according to multiple linear regression analysis.

Variable	Coefficient of regression (β)	95% CI	P-value
Education			
Primary school graduate	0.019	–0.062 to 0.100	0.648
Middle & high school graduate	0.040	–0.056 to 0.137	0.413
University graduate	0.174	0.040 to 0.307	0.011
Perceived economic status			
Middle	0.164	0.087 to 0.242	<0.001
Good & very good	0.200	0.106 to 0.293	<0.001
Living alone	–0.183	–0.312 to –0.054	0.005
ECOG ≥1	–0.022	–0.034 to –0.010	<0.001
Comorbidity	–0.032	–0.093 to 0.029	0.306

4. Discussion

A negative significant relationship was found related to age and WHOQOL-8.Tr quality of life scale scores (r = 195, P < 0.001) and EORTC QLQ-C30 scale physical functioning scores (r = 249, P < 0.001).

The English Cancer Patient Experience Survey findings reflect that poor experience across the cancer patient journey is consistently more common among younger ages than older groups, and decreases in older age groups. Further, women consistently report poor cancer patient experiences more often than men (13) .

A negative significant relationship was found related to time since diagnosis and WHOQOL-8.Tr quality of life scale scores (r = 141, P = 0.007), EORTC QLQ-C30 scale physical functioning scores (r = 130, P = 0.013), and perceived social support from the family scores (r = 134, P = 0.010).

The findings reflect a positive significant relationship between the Total Perceived Social Support, WHOQOL-8. Tr quality of life scale scores, and EORTC QLQ-C30 general well-being and for functional subscale (physical, emotional, cognitive, and social) scores (respectively r = 428, P < 0.001 and r = 314, P < 0.001).

In a large cohort study that aimed to analyze the association between self-reported history of physical diseases and psychological distress in a community-dwelling Japanese population, subjects with a history of physical disease were significantly and positively associated with psychological distress, and social support did not modify this association for most physical diseases (5).

In a study conducted in Ankara, a total of 1549 patients (797 females, 752 males) were analyzed. The median age was 54.5 (range: 16-92) years. The most common cancer was breast cancer (21%). Poor performance status, a family history of cancer, being an inpatient, being under current therapy, the disease being at an advanced stage, and metastatic disease were significantly associated with poor quality of life scores. The quality of life score was higher in patients with no metastasis compared to those with local or distant metastasis. The associations between quality of life score and sex, marital status, previous cancer history, and age were not significant. Global quality of life was higher in patients with gynecologic and colorectal cancer compared with the others (14).

Among a group of 187 gynecological cancer patients, statistically significant correlations between the type of perceived social support, quality of life, anxiety, and depression (P < 0.001) were found. While high social support was associated with increased quality of life, it was also associated with reduced anxiety and depression rates (15).

Subjects (n = 1930) with low perceived social support reported significantly higher levels of depression, lower scores on all functional scales, and lower global health quality of life scale scores in a nationwide study. Researchers concluded that cancer patients' perceived social support was directly associated with mental health and the quality of life in cancer patients, rather than having a "stress-buffering" effect (16).

In general, social support is accepted as one of the key psychosocial factors that has shown significant but inconsistent prognostic value in cancer. Further research on the mechanisms underlying this relationship showed that lack of social support (or high levels of subjective loneliness) can translate into psychosocial stress, which then alters the endocrine and immune systems (17).

In conclusion, assisting social support with organizational support and establishment of some type of screening for psychological distress in patients may lead to better cancer-related outcomes. These findings might shed light on future studies in Turkey and could guide improvement efforts targeting patients with cancer who are at greater risk of learned helplessness.

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