

# The Effects of Perceived Social Support, Psychological Resilience and Coping Strategies on Life Satisfaction in Men Diagnosed with Testicular Cancer

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## Research Article

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# Abstract

Testicular cancer is one of the most common cancers among young men. The patients diagnosed with testicular cancer may experience psychological disturbances during its diagnosis and treatment process. The present study was examined the effects of perceived social support, psychological resilience and coping strategies on life satisfaction in men diagnosed with testicular cancer. This cross-sectional data was obtained from the participants through different scales. The statistical analysis was included descriptive analysis and multiple logistic regression model for the variables. A total of 174 patients, mean 36, range=20-60 years, were included in the study. Results showed that the variables of HADS depression, HADS anxiety, perceived social support, psychological resilience and coping strategies included in the multiple logistic regression analysis explained the change in life satisfaction variance by 42% ( $R^2 = 0.423$ ;  $R^2 = 0.423$ ) determined by  $p < 0.005$ . The statistical significance was found for HADS depression score ( $t = -0.31$ ;  $p = 0.000$ ), HADS anxiety ( $t = -1.07$ ,  $p = 0.002$ ) and psychological resilience ( $t = -0.23$ ,  $p = 0.001$ ) in terms of life satisfaction levels of patients treated with testicular cancer. There was no statistical significance found among other variables and life satisfaction levels of patients ( $p > 0.005$ ). Testicular cancer, which is common among men, causes negative consequences on the life of individuals. Social support of the patients both during the diagnosis period and during the treatment, it causes changes in life satisfaction and psychological resilience. Therefore, psychological problems such as a decrease in the coping strategies of the patients, depression or anxiety are beginning to be observed.

# Introduction

Testicular cancer is the most common cancer seen in young men. This cancer, which is seen in early ages, affects the family life, career and especially sexual functions of men. With an adequate oncological care, it is most curable cancer with a more than 95% of survival rate [1]. In the studies conducted, psychological disturbances caused by sexual dysfunction and the thought of experiencing infertility problems in the future were found in patients diagnosed with testicular cancer [2]. While high levels of anxiety and depression symptoms were detected in the patients, it was argued that these could have a negative effect on the quality of life of the patients [3]. Testicular cancer and its diagnosis cause some psychological problems in patients. Patients who need psychological support both after the diagnosis and during the treatment process, not knowing the strategies to cope with the problems may cause some negative reactions [4]. The study result demonstrated that erection, ejaculation disorders, fear of infertility and body image problems occur frequently [5]. Testicular cancer is a condition that creates problems with a major life crisis and psychological chronic stress in the diagnosis and medical treatment process among couples. Also, testicular cancer, which is a life crisis for individuals; it reduces the psychological resilience of individuals and partners, forces coping strategies, consumes their energy both physically and psychologically [6]. However, the diagnosis and treatment of testicular cancer also negatively affects the life satisfaction of individuals. For this reason, the diagnosis and treatment process of cancer is a process in which individuals need more social support and want to perceive this support at a high level. Since the life expectancy of cured testicular patients is long, minimizing the effects on long-term health

and quality of life are important goals [7]. Although it is predicted that patients' psychological resilience and life satisfaction and often psychological symptoms may be observed during the treatment process of testicular cancer, there is no study conducted on this subject.

This study aimed to investigate the effects of perceived social support, psychological resilience and coping strategies on the life satisfaction variable of patients diagnosed with testicular cancer. In addition, it was aimed to reveal the effects of depression, somatization and anxiety that patients have on life satisfaction.

## **Materials And Methods**

### Study Design

The study was a descriptive and cross-sectional study using survey questionnaires to measure the outcome variables. A total of 174 men diagnosed with a testicular cancer at the age of 20-60 were included in the study. The survey method was used to collect data from the participants.

### Instruments

Participants' socio-demographic characteristics such as age, marital status, educational level, income and other clinical characteristics were collected and evaluated.

### Hospital Anxiety and Depression Scale (HADS)

The Hospital Anxiety and Depression Scale is a commonly use for the participants to measure anxiety and depression levels. Consisting of 14 items, HADS measures both anxiety (HADS-A) and depression (HADS-D) levels with an equal number of questions. Patients rank the question on a Likert scale ranging from 0 to 3 and the subscale from 0 to 21. A total score of 8 or above was defined as an optimal cut-off score for comfort for both anxiety and depression.

### The Multidimensional Scale of Perceived Social Support (MSPSS)

Multidimensional Perceived Social Support Scale was developed to determine the social support elements perceived by individuals. It consists of 12 items in total. It is a 7-point (1-7 points), likert-type scale ranging from "absolutely no" to absolutely yes. The source of perceived social support can be measured in three sub-dimensions: family, friends, and significant others. The lowest score that can be obtained from the subscales is 4 and the highest score is 28. The lowest score to be obtained from the whole scale is 12, and the highest score is 84.

### The Coping Attitudes Scale (CAS)

The scale consists of 60 questions and 15 subscales. Each of these scales provides information about a separate coping attitude. As a result, the higher the scores to be obtained from the subscales give the possibility to comment on which coping attitude is used more by the person. Five of these coping

attitudes (active coping, planning, suppressing other occupations, holding back, use of useful social support) are classified as problem-focused. The other five coping attitudes (use of emotional social support, positive reinterpretation and development, acceptance, joking, and religious coping) are classified as emotion-oriented. The other five coping attitudes (focusing on the problem and revealing emotions, behavioral disengagement, substance use, denial and mental disengagement) are classified as the least useful non-functional coping attitude.

### The Satisfaction with Life Scale (SWL)

The Satisfaction with Life Scale was prepared by Diener et al. (1985) in order to determine the level of satisfaction with life and to conduct standard studies on this subject. This scale consists of 5 items that include the expressions: "My life is close to my ideals in many aspects, my living conditions are very good, I am satisfied with my life, I have achieved what I wanted so far, and if I were born again, I would hardly change anything in my life." It is a 5-point Likert type self-rating scale. Its scoring is between 5-25. It provides a measure of satisfaction for individuals in all their lives and all aspects of their lives. It gives people the opportunity to evaluate and rate themselves. If the individual gets a low score on the scale, it means that his/her life satisfaction is low and that he/she gets a high score means that his / her life satisfaction is high.

### The Resilience Scale for Adults (RSA)

It is a 5-point Likert-type scale that includes a total of 33 items, in order to avoid biased evaluations in choosing the items, in which positive and negative features are on different sides. The dimensions in the scale are named as 'self-perception', 'future perception', 'structural style', 'social competence', 'family adaptation' and 'social resources'. In the assessment, the scoring method was allowed to measure psychological resilience high or low, and it was suggested that existing inverse questions should be evaluated according to this scheme. Friborg et al. (2003) were developed the scale.

### Statistical Analyses

The obtain data was analyzed using the SPSS 23 package program. The descriptive analysis including mean, standard deviation, percentage and frequency were calculated. Logistic regression and multiple linear regression analysis were used to examine whether the study has a significant predictive effect on dependent variables. The statistical significance was taken as  $p < 0.05$ .

## Results

A total of 173 testicular cancer patients were included in this study with a mean age of 36 (SD 12.76). The majority of them (81.1%) were married, had tertiary education (41.9%) and low income (67.8%). The most of them were smoked cigarettes (62.6%) and used alcohol (72.9%). In addition, the majority of them had surgery (64.3%) and had no comorbidities (79.3%).

Table 1  
Socio-demographic characteristics of participants

	n	%
Age (Ave + SD)	36 (12.76)	
Marital Status		
Single	33	18.9
Married	141	81.1
Education		
Primary	36	20.8
Secondary	65	37.3
Tertiary	73	41.9
Occupation		
Private	105	60.3
Government	57	32.7
Not working	12	7
Income		
Low	118	67.8
High	56	32.2
Smoker		
Yes	65	37.4
No	109	62.6
Alcohol		
Yes	47	27.1
No	127	72.9
Surgery		
Yes	112	64.3
No	62	35.7
Comorbidities		
Yes	36	20.7

	n	%
No	138	79.3

In Table 2, mean scores, standard deviation and ranges of domains of HADS, MSPSS, CAS, SWL and RSA were presented. The mean HADS-anxiety score was 1.9 (SD = 2.9) while the mean score of HADS-depression was 1.8 (SD = 2.5). The CAS scores ranged from 8.0–63.0 with a mean of 22.9 (SD = 8.7) indicating level of coping attitudes. The SWL scores ranged from 5.0–25.0 with a mean of 12.2 (SD = 4.2) indicating mild level of life satisfaction among the participants. The highest mean score of family was 54.7 (SD = 8.5) among MSPSS subscales, followed by 48.5 (SD = 9.3) for friends and 53.3 (SD = 5.8) for others. The RSA scores ranged from 22.0–62.0 with a highest mean 52.4 (SD = 6.4) of social resources and lowest mean 47.5 (SD = 8.2) of perception of self. Other scores and range of subscales of RSA were distributed between the highest and lowest mean scores along with the ranges.

Table 2  
Mean, standard deviation and range of domains of HADS, MSPSS,  
CAS, SWL, RSA

<b>Domains</b>	<b>Mean (SD)</b>	<b>Range</b>
<b>HADS</b>		
HADS-Anxiety	1.9 (2.9)	0–14.0
HADS-Depression	1.8 (2.5)	0–13.0
<b>MSPSS</b>		
Family	54.7 (8.5)	29.8–64.2
Friends	48.5 (9.3)	25.1–56.3
Others	53.3 (5.8)	21.3–56.9
<b>RSA</b>		
Perception of Self	47.5 (8.2)	26.2–56.8
Planned Future	49.6 (10.2)	22.7–61.7
Social Competence	47.8 (10.8)	25.8–54.2
Family Cohesion	48.2 (8.1)	22.1–52.9
Social Resources	52.4 (6.4)	32.8–59.7
Structured Style	51.5 (6.2)	28.7–57.7
<b>CAS total</b>	22.9 (8.7)	8.0–63.0
<b>SWL total</b>	12.2 (4.2)	5.0–25.0
HADS-Anxiety: Hospital Anxiety Scale		
HADS-Depression: Hospital Depression Scale		
MSPSS: Multidimensional Scale of Perceived Social Support		
RSA: Resilience Scale for Adults		
CAS: Coping Attitudes Scale		
SWL: Satisfaction with Life Scale		

Table 3 presents multiple logistic regression to determine whether the independent variables had an effect on the result. Analyses were performed using the enter model in multiple linear regression analysis. The significance and explanation percentage of the model with all variables were calculated. In the regression analysis, the model was created with the stepwise variable selection method. The modeling process was performed with the independent variables of HADS anxiety, HADS depression, MSPSS, CAS,

SWL and RSA. These independent variables were scored with the calculations specified in the scales. Accordingly, the model was found to be significant as a result of the variance analysis of the regression equation obtained as a result of the analysis ( $F = 6.138$ ;  $p < 0.05$ ). Accordingly, the variables of HADS depression, HADS anxiety, perceived social support, psychological resilience and coping strategies included in the multiple linear regression analysis explained the change in life satisfaction variance by 42% ( $R^2 = 6.351$ ;  $R^2 = 0.423$ ) determined ( $p < 0.005$ ). The statistical significance was analyzed of the independent variables and the result showed that HADS depression score ( $t = -0.31$ ;  $p = 0.000$ ), HADS anxiety ( $t = -1.07$ ,  $p = 0.002$ ) and psychological resilience ( $t = -0.23$ ,  $p = 0.001$ ) were found to be significant in terms of life satisfaction levels of patients treated with testicular cancer. There was no statistical significance found among other variables and life satisfaction levels of patients ( $p > 0.005$ ).

Table 3  
Multiple logistic regression analysis of HADS, MSPSS, CAS, SWL, RSA

Domains	B	Std. error	t	p value	95% CI for B
HADS-Anxiety	-1.07	0.46	-3.37	0.002	-1.70 to - 0.44
HADS-Depression	-0.31	0.61	-0.73	0,000	-1.14 to - 0.53
MSPSS	-0.51	1.64	0.38	0,455	-0.42 to - 0.03
CAS	0.04	0.06	0.64	0,182	-0.08 to - 0.16
SWL	0.17	0.18	0.88	0,922	-0.14 to - 0.36
RSA	-0.23	0.1	0.19	0,001	-0.42 to - 0.03
R <sup>2</sup> : 6.351; Adjusted R <sup>2</sup> : 0.423; F = 6.138; p < 0.05					

## Discussion

Testicular cancer is the most common type of cancer in almost 1% of men between the ages of 20 and 40 [8]. The most common problems faced by patients diagnosed with testicular cancer are sexual function problems. However, the most common mental problems among patients were stated as anxiety and depression. Factors such as the diagnosis of cancer, age, family history, smoking, alcohol use and psychological endurance were among the important factors affecting the treatment process of the disease [9]. The ages of the participants in the study ranged from 20 to 60 and the mean age was 36. The education level of patients diagnosed with testicular cancer is very important in terms of treatment process, reproductive and health behaviors. This variable affects the perception of cancer and the level of cancer-related problems [10]. For this reason, those with a high level of education may be more conscious during the treatment process. When the educational status of the participants was evaluated, it was found that most of the participants were tertiary (41.9%). The low education level of individuals; it is thought to lead to a decrease in their quality of life, less awareness of health risks, not knowing about health protective measures, not being able to use coping strategies when they experience health

problems, and a decrease in their psychological resilience. The results from this study show that the majority of men diagnosed with testicular cancer patients report high level of anxiety and depression symptoms. Also, the results of the study indicate an increased occurrence of psychological resilience after a diagnosis of testicular cancer [11]. There was a significant different between the patients who had diagnosed with testicular cancer, levels of depression, anxiety and psychological resilience. Although, there is a gap in the literature regarding this subject and testicular cancer patients, previous studies reported that psychological problems such as high level of anxiety and depression symptoms are related to testicular cancer patients during diagnosis and treatment process [12]. The study results have shown that psychosocial factors such as emotional disorders, spouse problems, lack of social support or social exclusion accompanying patients' increased stress can lead to a decrease in life satisfaction [13]. In addition, other studies reported that the social support perceived by cancer patients from their spouses has positive effects on life satisfaction. Social support directly affects life satisfaction in cancer patients' coping with the disease during the treatment process [14]. It has been reported that the level of psychological resilience due to stress and anxiety decreases in patients diagnosed with testicular cancer and treated [15]. Thus, this has a negative effect on the quality of life. The psychological resilience of the patients is related to different variables in the treatment process and the importance of supporting psychological resilience in coping with the negativities experienced by the individuals and increasing their life satisfaction. In this study, it was found that resilience has a positive effect on life satisfaction. Although there are no studies on the low relationship between testicular cancer, which is one of the traumatic and negative life events, and life satisfaction, it has been reported in other cancer studies that individuals with more coping strategies have more positive life satisfaction. It has been reported that coping strategies directly contribute to changes in life satisfaction and are likely to change the level of life satisfaction.

## **Conclusion**

Testicular cancer, which is common among men, causes negative consequences on the life of individuals. Social support of the patients both during the diagnosis period and during the treatment, it causes changes in life satisfaction and psychological resilience.

Therefore, psychological problems such as a decrease in the coping strategies of the patients, depression or anxiety are beginning to be observed. Testicular cancer is not only an oncological disorder, but also psychologically, and patients should be given support to cope with psychological disturbances and increase their psychological resilience.

## **Declarations**

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Consent to Participate – The consent was obtained from all participants

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Design; Zekeriya Temircan Türev Demirtaş, Supervision; Zekeriya Temircan, Materials; Türev Demirtaş, Data Collection; Zekeriya Temircan Türev Demirtaş, Writer; Zekeriya Temircan Türev Demirtaş, Critical Review; Türev Demirtaş, Final Approval; Zekeriya Temircan Türev Demirtaş

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