Original Article

Quality of Life And Social Support in Patients with Lung Cancer

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Abstract

Objective: This study was conducted as a cross-sectional study to determine factors affecting the quality of life of individuals with lung cancer, and the relationship between levels of social support and quality of life of individuals with lung cancer.
Methodology: The study was conducted on 55 lung cancer people who were Oncology Day Treatment Unit in an oncology hospital in Turkey. The study included individuals who received chemotherapy at least 3 months ago, met inclusion criteria, and agreed to participate in the study. The data of the study were collected by using Information Form (socio-demographic questions and questions about the disease), Quality of Life Index Cancer Adaptation - III and Multidimensional Scale of Perceived Social Support. In this study, informed consent, ethics committee approval and approval from the Institution were obtained from individuals with lung cancer. In the evaluation of the data; descriptive statistics, independent two sample t test, One-Way ANOVA, Mann-Whitney U test, Kruskal Wallis test, Pearson Correlation analyses were used. The value of $p<0.05$ was considered as statistically significant.
Results: It was determined that 56.43±9.12 the mean age of with lung cancer individuals, that 47.3% were aged 51-60, 85.5% were male, 60.0% were primary school graduates, 52.7% were retired, 71.0% were non-small cell lung cancer and 78.0% were stage IV. Quality of life scale total score average was 20.15±3.13 and the social support scale total score average was 52.09±13.57 for the subjects participating in the study. There was a significant positive correlation between the total social support and the mean of total quality of life scores ($p<0.01$), a positive relationship was found between family social support perceived and quality of life all subscale scores ($p<0.05$).
Conclusions: As a result, it was determined that the individuals with lung cancer had social support and that affects the quality of life positive.

Key words: Lung cancer, nursing, social support, quality of life

Introduction

Lung cancer is the worst cancer type with the greatest prognosis in the world and the great majority of cancer deaths (26.81%), (Karadakovan & Eti Aslan, 2014; AACR, 2015; American Cancer Society, 2015; Siegel et al., 2015). The greatest cause of mortality in lung cancer is to diagnose the disease in advanced stage (Aydiner and Can, 2010; Karadakovan & Eti Aslan, 2014; Shim et al., 2014; Şencan & Keskinkilic, 2016). Surgery, chemotherapy and radiation therapy are used in the treatment of advanced lung cancer patients. Because of these intensive invasive and toxic treatments, many symptoms can develop in patients (Aydiner & Can, 2010; Aydiner et al., 2010; Karadakovan & Eti Aslan, 2014). Eliminating symptoms and improving quality of life in patients with lung cancer is often more important than curative therapy, even becoming the primary target (Aydiner & Can, 2010; Aydiner et al., 2010). The success of treatment or care should be determined not only by the prolongation of efficacy and survival but also by the satisfaction of the quality of life assessed by the individual himself/herself (Polanski et al., 2016). Life quality; is a concept that contains the culture, value judgments, position and purpose of the person, showing the personal reaction to the illnesses affecting the level of personal satisfaction in the living conditions and the physical, mental and social effects of daily life (Yesilbalkan, 2005; Gultekin, 2008; Can, 2014; Polanski et al., 2016). Nurses

providing care with cancer patients are in an important position to assess the effects of physical and psychological symptoms and side effects of treatment on all aspects of life such as body image, psychological state, work life, social life, family roles and spirituality of an individual (Can, 2014; Karadakovan & Eti Aslan, 2014; McDonnell et al., 2014). Making efforts towards quality of life in nursing; includes nurse initiatives such as relieving the patient, providing appropriate care, and upgrading the state of well-being, including biological, psychosocial, and socio-cultural aspects of life (Can, 2014; Karadakovan & Eti Aslan, 2014). Social support is defined as any kind of material and spiritual help provided by the immediate vicinity of the individual. It is also stated that social support is an important supporter of someone who is able to cope with life difficulties directly affecting physical and mental health in a positive way, meeting basic social needs such as love, compassion, self-esteem and belonging to a group (Eker, 2001; Ardahan, 2006). It is important to determine the level of quality of life and the level of social support perceived by individuals with lung cancer who are on treatment, to take the necessary precautions, to establish the treatment process and appropriate remedies. This study was planned and conducted to determine the relationship between the quality of life of the lung cancer patients and the perceived social support and the factors that affect their quality of life.

Materials and Methods

This cross-sectional study was conducted with primary lung cancer individuals who applied the Oncology Day Treatment Unit in a university hospital in Turkey, and received chemotherapy treatment, and agreeing to participate in the study. The study was completed a total of 55 lung cancer individuals. Since 6 of the patients did not coincide with the time of the researcher, 5 of them could not be included in the study because they did not want to answer the questions. Inclusion criteria; 18 years of age and over, being at least a primary school graduate, no loss of sensation related to vision and hearing, to be open to communication and cooperation, no psychiatric disorder and at least three months ago and who were diagnosed.

In order to collect the data of the study; Information Form, Quality of Life Index Cancer Adaptation-III (EORTC QLQ-C30), Multidimensional Perceived Social Support Scale (MSPSS) were used.

The questionnaires were collected using face-to-face interview techniques with patients by investigator and the filling of each questionnaire took 20-30 minutes on average.

Information Form: There are questions that include sociodemographic characteristics (such as age, gender, marital status, occupation, social security, education level) and disease-related characteristics (eg disease stage, type, number of cures received) in information form prepared by reviewing the literature (Turgay et al., 2008; Akın et al., 2010).

Quality of Life Scale (EORTC QLQ-C30): The Quality of Life Index (QLI) was developed by Ferrans and Powers (Ferrans and Powers, 1985) to measure quality of life (QoL) in terms of satisfaction with life. The QLI measures both the satisfaction and importance of various aspects of life. Importance ratings are used to weight satisfaction responses, so that scores reflect the respondents' satisfaction with the aspects of life that they value. Items that are rated as more important have a greater impact on scores than those rated as being of lesser importance. The instrument consists of two parts: the first measures satisfaction with various aspects of life and the second measures the importance of those same aspects. It is 6-point Likert scale. Scores are calculated to gauge overall QoL in four domains: Health and Functioning, Psychological/Spiritual, Social and Economic, and Family. The total score of the scale ranges from 0 to 30, with a lower score indicating that the QoL is affected more negatively (Ferrans and Powers, 1985). In the present study, the Cronbach alpha coefficient of EORTC QLQ-C30 was 0.80.

Multi-Dimensional Perceived Social Support Scale (MSPSS): The MSPSS consists of 12 items relating to perceived SS, for example 'My family really tries to help me', 'I have friends with whom I can share my joys and sorrows', and 'There is a special person who is around when I am in need'. Participants are instructed to indicate their level of agreement or disagreement regarding each statement on a 7-point Likert scale. Three separate scores can be calculated for the sources of support; Significant Other, Family and Friends. Higher scores indicate greater perceived SS. (Zimet et al., 1988) In the present study, the Cronbach alpha coefficient of MSPSS was 0.86.

Statistical Analysis: The data were evaluated by using IBM SPSS Statistics 16.0 statistics package (IBM Corp, Armonk, New York, USA) program. Normal distribution of the data was evaluated by using the Shapiro Wilk normality test, Q-Q plot, and histogram graphics. Descriptive statistics were given as unit number (n), percentage (%), and mean ± standard deviation. Descriptive statistics, independent two sample t test, One-Way ANOVA, Mann-Whitney U test, Kruskal Wallis test, Pearson Correlation analyses were used. The value of $p<0.05$ was considered as statistically significant in comparisons.

Ethical Consideration

In order to conduct the study, Decision was received from the University's Clinical Studies Ethics Committee and a written institutional permission was received from the centre where the study was conducted. The purpose of the study was explained to the individuals with lung cancer included in the study and their written informed consents were received.

Results

Sociodemographic Characteristics

Of the patients included in the study, 47.3% were in the age group of 51-60 years and the mean age was 56.43±9.12. 85.5% of the patients were male, 60.0% were primary school graduates, 52.7% were retired and 92.7% were married. In addition, 71% of the lung cancer patients were found to have non-small cell lung cancer, 78% to IV stage and 50.9% to receive 4 or less (2-4 cycles) chemotherapy (Table 1).

Table 1. Descriptive characteristics of individuals with lung cancer (*n*=55)

Characteristics of Individuals	Number	%
Age		
31-40	4	7.3
41-50	8	14.5
51-60	26	47.3
61-70	15	27.3
71≤	2	3.6
Gender		
Male	47	85.5
Female	8	14.5
Educatıonal Level		
Primary School	33	60.0
Middle School	6	10.9
High School	11	20.0
University	5	9.1
Occupatıon		
Government official	3	5.5
Self-employment	9	16.4
House wife	7	12.7
Retired	29	52.7
Unemployed	7	12.7
Marıtal Status		
Married	51	92.7
Single	4	7.3
Socıal Security		
There is	51	92.7
No	4	7.3
Chemotherapy Cycle		
4 ≥	28	50.9
4 <	27	49.1
Stage Of Dısease		
Stage I-II	3	5.0
Stage III	9	17.0
Stage IV	43	78.0
Hıstologıcal Type Of Lung Cancer		
Small-Cell Lung Cancer (SCLC)	16	29.0
Non-Small-Cell Lung Cancer (NSCLC)	39	71.0

Table 2. Individuals with lung cancer' quality of life related descriptive characteristics (*n*=55)

Descriptive Characteristics	n	Health and Functioning Subscale Mean rank X±SD	Social And Economic Subscale Mean rank X±SD	Psychological/Spiritual Subscale Mean rank X±SD	Family Subscale Mean rank X±SD	Total QLI Mean rank X±SD
Age						
31-40	4	16.50 ±2.34	15.72 ±2.48	19.51 ±4.03	24.57 ±3.05	18.20±2.31
41-50	8	18.82 ±2.93	16.99 ±2.67	17.67 ±3.70	24.02 ±2.88	19.04±1.07
51-60	26	19.02 ±3.90	18.64 ±3.66	21.27 ±4.53	24.36 ±3.24	20.27±2.83
61-70	15	20.60 ±3.58	19.31 ±4.42	22.20 ±5.29	24.65 ±3.23	21.26±3.65
71≤	2	18.68 ±5.52	15.53 ±9.24	20.87 ±9.36	20.15 ±1.18	18.62±8.30
p		p>0.05	p>0.05	p>0.05	p>0.05	p>0.05
Gender						
Male	47	19.50±3.56	18.31±4.19	21.20±4.41	24.27±3.50	20.34±3.19
Female	8	17.62±4.19	17.93±1.97	18.88±6.83	24.13±3.90	19.07±2.69
p		p>0.05	p>0.05	p>0.05	p>0.05	p>0.05
Educatıonal Level						
Primary School	33	18.53±3.79	17.04±3.57	19.78±4.70	23.70±3.49	19.30±2.89
Middle School	6	19.73±1.83	18.09±3.87	23.70±3.63	26.19±2.43	21.14±2.40
High School	11	19.34±3.67	19.53±3.54	20.27±4.78	24.16±4.51	20.32±3.22
University	5	23.00±2.66	23.66±1.88	25.91±3.08	25.76±1.22	24.23±1.97
p		p>0.05	***p<0.01***	***p<0.05***	p>0.05	***p<0.01***
Marıtal Status						
Married	51	19.15±3.67	18.58±3.81	20.93±4.89	20.93±4.89	20.23±3.15
Single	4	20.22±4.19	14.17±3.50	19.93±4.31	23.20±3.59	19.21±3.15
p		p>0.05	***p<0.05***	p>0.05	p>0.05	p>0.05
Vocation						
Government official	3	18.78±1.83	17.54±1.29	18.71±3.68	25.43±3.86	19.27±1.38
Self-employment	9	17.46±2.93	16.90±3.56	18.97±3.52	23.52±2.73	18.62±2.04
House wife	7	18.21±4.15	18.03±2.11	20.68±4.90	23.85±4.13	19.65±2.32
Retired	29	20.14±3.70	19.81±3.80	22.17±5.19	24.78±3.12	21.25±3.35
Unemployed	7	18.92±4.18	14.11±3.86	18.97±4.30	22.92±5.42	18.45±3.26
p		p>0.05	***p<0.01***	p>0.05	p>0.05	p>0.05
Socıal Securıty						
There is	51	19.37±3.74	18.76±3.56	21.13±4.82	24.60±3.06	20.44±3.00
No	4	17.34±2.01	11.78±2.67	17.47±3.95	19.82±6.28	16.45±2.58
p		p>0.05	***p<0.01***	p>0.05	***p<0.01***	p>0.05
Stage Of Dısease						
Stage I-II	3	23.58±3.79	22.28±3.63	26.83±4.48	25.65±2.75	24.30±3.71
Stage III	9	19.78±1.93	17.24±2.86	20.57±3.30	24.93±2.28	20.22±1.55
Stage IV	43	18.45±3.61	17.67±3.86	19.78±5.20	23.95±3.61	19.41±3.17
p		p>0.05	p>0.05	p>0.05	p>0.05	p>0.05
Hıstologıcal Type						
SCLC						
NSCLC	16	19.48±3.45	17.89±3.48	21.47±3.86	25.37±3.17	20.45±2.17
p	39	18.69±3.54	17.77±3.94	19.66±5.46	23.63±3.33	19.47±3.45
		p>0.05	p>0.05	p>0.05	p>0.05	p>0.05
Chemotherapy Cycle						
4 ≥	28	19.19±3.35	18.14±4.02	20.02±6.11	24.46±2.68	19.98±3.27
4 <	27	18.69±3.72	17.43±3.47	20.58±3.43	23.94±4.04	19.60±19.6
p		p>0.05	p>0.05	p>0.05	p>0.05	p>0.05

Table 3. Correlation between quality of life scores and perceived social support scores of the individuals with lung cancer (*n*=55)

	Health and Functioning	Social And Economic	Psychological/ Spiritual	Family	Total QLI
Family	.306*	.475**	.378**	.692**	.535**
Friends	.073	.478**	.105	.285*	.263
Significant Other	.003	.424**	.006	.066	.139
Total Scale	.133	.558**	.172	.383**	.354**

** p<0.05 ** p<0.01*

Quality of Life and Social Support of Individuals with Lung Cancer

The mean scores of the quality of life scale subscale scores of the individuals with lung cancer; health and mobility were found to be 19.23±3.67, social and economical 18.26±3.93, psychological/religious 20.86±4.83, family 24.25±3.53 and total quality of life score 20.15±3.13. The average social support points perceived by the patients; 24.65±4.32 from family, 15.36±6.39 from friend, 12.07± 5.79 for special person (nurse) and 52.09±13.57 for total social support perceived. In this study; The average quality of life scores of those with education level university, retirement age, marriage and social security were higher (p>0.05). There was no statistically significant difference between the patients' gender, age, stage of illness, type of illness, number of cures and quality of life scores (p>0.05, Table 2).

Correlation between Quality of Life and Social Support

It has been determined that there is a positive relationship between perceived social support and all subscales of life quality and average of total scores. At the same time, there was a positive correlation between the perceived social support and the social-economic subscale of the quality of life, the social-economic, family subscale of the quality of life, and the average of total points and perceived social support scores (p<0.05, Table 3).

Discussion

Among the subjects with lung cancer who participated in the study, 61-70 age group, the average of the quality of life scores was higher than the other age groups. These results are consistent with the literature (Cooley et al., 2003; Akın et al., 2010; Can and Aydiner, 2011). The life experiences of elderly individuals may have resulted in less negative psycho-social reactions and anticipation, and better cope with the crisis (Trauma-Informed Care, 2014). In this study; when compared to women, men's life quality score averages were found to be high (p>0.05). It may be that the consequences of the increased domestic responsibilities of women in Turkish society, their continuing responsibilities during the illness period, and their more emotional reactions to the difficulties of the illness. While similar studies lead to the same result, (Cooley et al., 2003; Can and Aydiner, 2011; Larsson et al, 2012; Sterzi et al, 2013) the quality of life of women was found to be higher than that of men in some studies that were different from our studies (Akın et al., 2010; Ran et al., 2017). When the average of the quality of life scores according to the marital status of the patients were examined, the mean score of total quality of life was higher in married individuals and statistically significant difference was found between social and economic subscale of life quality (p<0.05). The study results are similar to the literatüre (Akın et al., 2010; Baczewska et al., 2014; Banik et al., 2017). This may have been due to the fact that the support resources of married patients are excessive and the psychological comfort provided by the feeling of sharing affects the quality of life positively. The mean scores of the total quality of life scores of the individuals with lung cancer who participated in the research were found higher in university graduates and it was found that there was a positive correlation between the social and economic subscale of life quality and the mean score of psychological/religious subscale of life quality (p<0.05). The study findings are consistent with the literatüre (Turgay, 2008; Can et al., 2009; Akın et al., 2010). The reason for the high total quality of life scores of the university graduates in the study is that the higher the education level, the more information the individual has about health protection and development. The higher the level of education,

the higher the income ratio may be. Individuals with social security in the study had higher quality of life and the difference was found to be statistically significant for the social/economic subscale and family subscale of life quality ($p<0.05$). Since the duration of cancer treatment and rehabilitation is long, it is considered that the economic support of the patients affects the quality of life positively as the treatment costs are covered in the social security. When the relationship between the introductory characteristics of the diseases of the patients and the average of the quality of life points is examined; Individuals with stage I-II, QOL and cure counts of 4 or less had higher mean scores for their quality of life and no significant difference was found between them ($p<0.05$). The findings of the study are similar to those of previous studies (Akın et al., 2010; Banik et al., 2017; Turgay et al., 2008). The reason for the low average quality of life scores of individuals with a cure count of 4 or more is that long-standing treatment, uncertainty about the future, and adverse side effects of treatment have caused adverse effects on patients. The reason for the higher mean scores of total quality of life scores of patients with stage I-II can be explained by the increased incidence of symptoms in advanced stages.

It was determined that there was a positive relationship between the social support point averages perceived from the families of the individuals with lung cancer who participated in the survey and the average point average of all sub-dimensions of total quality of life and quality of life. The study findings are consistent with the literatüre (Henoch et al., 2007; Novotny 2010; Banik et al., 2017). It can be considered that people with stronger support systems are less affected or not at all affected by the negative impact on health status of people with little or no social support. It is recommended to check the level of social and moral support (Trauma-Informed Care, 2014; Polanski et al., 2016).

Limitations

In the study, the sample was selected from individuals with lung cancer who applied to a university hospital and therefore the results could not be generalized.

Conclusion

It was determined in this study that effect of social support on the improved the quality of life in lung cancer patients. In this respect, it may be advisable to regularly evaluate the quality of life of patients, to plan the training of health workers and to carry out studies to be carried out with a wider and more extensive sample group, which will increase the quality of life. the research into the best ways of measuring and assessing quality of life must continue to seek individual values and preferences and how these can be applied in a simple way in clinical studies.

References

Akin S, Can G, Aydiner A, Ozdilli K. & Durna Z. (2010) Quality of life, symptom experience and distress of lung cancer patients undergoing chemotherapy. Eur J Oncol Nurs 14: 400-409.

American Association for Cancer Research. (2015) AACR Cancer Progress Report 2015. Clinical Cancer Research, 21, 1-128.

American Cancer Society. (2015) Cancer facts & figures 2015. American Cancer Society; Atlanta, pp.4-8.

Ardahan M. (2006) Social support and nursing. Ataturk University School of Nursing Journal 9: 68-75.

Aydiner A. & Can G. (2010) Treatment and Care in Lung Cancer. İpomet Typography, İstanbul, pp.160-162.

Aydiner A, Ece T. & Topuz E. (2010) Lung Cancer Diagnosis Treatment Follow-Antakya Consensus, pp.1-15,145,162,165.

Baczewska B, Kaminska M, Ciszewski T, Kubiatowski T, Makara-Studzinska M, Sygit K, Sygit M, Zubilewicz J. & Pietrzak K. (2014) Quality of life and occurrence of depression under chemotherapy in patients suffering from lung carcinoma. Ann Agric Environ Med 21: 783-789.

Banik A, Luszczynska A, Pawlowska I, Cieslak R, Knoll N, (2017) Enabling, not cultivating: received social support and self-efficacy explain quality of life after lung cancer surgery. Ann Behav Med 51: 1-12.

Can G. & Aydiner A. (2011) Development and validation of the Nightingale Symptom Assessment Scale (N-SAS) and predictors of the quality of life of the cancer patients in Turkey. Eur J Oncol Nurs 15: 3-11.

Can G, Erol Ö, Aydiner A. & Topuz E. (2009) Quality of life and complementary and alternative medicine use among cancer patients in Turkey. Eur J Oncol Nurs, 13: 287-94.

Can G. (2014) Oncology Nursing. Nobel Medical Bookstore, Ankara, pp. 95-97, 279-290, 615, 616.

Cooley ME, Short TH. & Moriarty HJ. (2003) Symptom prevalence, distress, and change over time in adults receiving treatment for lung cancer. Psychooncology, 12: 694-708.

Eker D, Arkar H. & Yaldiz H. (2001) Factor structure, validity and reliability of the supervised form of

the multidimensional perceived social support scale. Turkish Journal of Psychiatry, 12: 17-25.

Ferrans C. & Powers M. (1985) Quality of life index: development and psychometric properties. ANS Adv Nurs Sci 8: 15-24.

Gultekin Z. & Pinar G. (2008) Quality of life and expectation of health care services for patients with lung cancer. International Journal of Hematology-Oncology, 18: 99-106.

Henoch I, Bergman B, Gustafsson M, Gaston-Johansson F. & Danielson E. (2007) The impact of symptoms, coping capacity, and social support on quality of life experience over time in patients with lung cancer. J Pain Symptom Manage 34: 370-379.

Karadakovan A. & Eti Aslan F. (2014) Internal and Surgical Care. Academician Medical Bookstore, Ankara, pp.15-16.

Larsson M, Ljung L. & Johansson BB. (2012) Health-related quality of life in advanced non-small cell lung cancer: correlates and comparisons to normative data. Eur J Cancer Care (Engl) 21: 642-649.

McDonnell KK, Bullock LF, Hollen PJ, Heath J. & Kozower BD. (2014) Emerging issues on the impact of smoking on health-related quality of life in patients with lung cancer and their families. Clin J Oncol Nurs 18: 171-181.

Novotny PJ, Smith DJ, Guse L, Rummans TA, Hartmann L, et al. (2010) A pilot study assessing social support among cancer patients enrolled on clinical trials: a comparison of younger versus older adults. Cancer Manag Res 2: 133-142.

Polanski J, Jankowska-Polanska B, Rosinczuk J, Chabowski M. & Szymanska-Chabowska A. (2016) Quality of life of patients with lung cancer. Onco Targets Ther 29: 1023-1028.

Ran J, Wang J, Bi N, Jiang W, Zhou Z, Hui Z, et al. (2017) Health-related quality of life in long-term survivors of unresectable locally advanced non-small cell lung cancer. Radiat Oncol 12: 195.

Shim J, Brindle L, Simon M. & George S. (2014) A systematic review of symptomatic diagnosis of lung cancer. Fam Pract, 31: 137-148.

Siegel RL, Miller KD. & Jemal A. (2015) Cancer statistics, 2015. CA Cancer J Clin 65: 5-29.

Sterzi S, Cesario A, Cusumano G, Corbo G, Lococo F, et al. (2013) How Best to Assess the quality of life in long-term survivors after surgery for NSCLC? Comparison between clinical predictors and questionnaire scores. Clin Lung Cancer 14: 78-87.

Sencan I. & Keskinkilic B. (2016) Cancer Statistics Turkey. TC. Ministry of Health Public Health Agency of Turkey, Ankara, pp. 38-39,48.

Trauma-Informed Care in Behavioral Health Services. (2014) Edt: Center for Substance Abuse Treatment (US).Rockville (MD): Substance Abuse and Mental Health Services Administration (US); Report No: (SMA) 14-4816.

Turgay AS, Khorshid L. & Eser I. (2008) Effect of the first chemotherapy course on the quality of life of cancer patients in Turkey. Cancer Nurs 31: 19-23.

Zimet GD, Dahlem NW, Zimet SG. & Farley GK. (1988) The multidimensional scale of perceived social support. J Pers Assess, 52: 30-41.