

Quality of life of patients with advanced cancer treated in a regional hospital in Greece

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Abstract

Background: Quality of life (QoL) assessment contributes to the better care of cancer patients. The aim of the study was to determine QoL among treated patients with advanced cancer (ACPs) in the island of Crete, Greece, their satisfaction with the given care and to evaluate possible differences in QoL between in- and day care clinic patients.

Methods: The QoL of 95 Greek ACPs with breast, lung, and colon cancer were evaluated using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30, version 3), and its Breast (QLQ-BR23) and Lung (QLQ-LC13) Cancer modules, while their satisfaction with the given care was evaluated with a 10-point questionnaire. Multiple linear regression analysis was used to assess associations of QoL with patients' demographic and clinical characteristics.

Results: Patients reported moderate global health status/QoL (62.6) and higher cognitive, physical, and emotional scores (75.4, 66.8, and 66.6 respectively). In symptoms scales/items, all patients had mean scores <50 while higher mean scores were observed for fatigue (41.8) and dyspnea (36.2). No significant differences in functioning and symptoms scales were found between different cancer types. Sexual functioning in QLQ-BR23 and alopecia in QLQ-LC13 severely affected QoL. Hospitalized patients reported worse mean global QoL than those visiting the day care clinic (55.6 versus 67.6, $p=0.017$), as well as in all parameters described by QLQ-C30. Most patients were satisfied with the given care ($\geq 8/10$, 74.2% of patients).

Conclusions: ACPs in the present study were found to have an overall good QoL, functioning, and symptoms scores and were satisfied with the given care. Fatigue, dyspnea, alopecia, and sexual dysfunction were found to be among the most frequently reported distressing symptoms. Hippokratia 2016, 20(2): 139-146

Keywords: Advanced cancer, symptoms, quality of life, sexual dysfunction, EORTC QLQ-C30

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Introduction

Patients with advanced cancer (ACPs) experience physical, psychological, social, and practical/daily living problems which are not easy to assess, due to different symptoms, attributed to the disease, as well as to treatment toxicities¹⁻⁴. Additionally, ACPs usually report comorbidities, limited financial resources, and unmet supportive care needs^{1,5}. These difficulties represent a significant additional burden on their caregivers too⁶.

The complexity of symptoms requires coordination between patients and their significant others with the oncology care team, in order to improve the quality of life (QoL), especially among those who do not respond to treatment⁵. The successful management of symptoms, which affect QoL, helps ACPs to maintain their well-be-

ing, decrease their distress and probably affects disease related mortality⁷.

However, health care professionals cannot always assess patients' QoL, due to different opinions between them and their patients⁸. Evaluation of QoL from the patients' perspective, with the use of appropriate tools, enables the caring staff to better understand the patients' perceptions, expectations, and satisfaction^{9,10}.

Over the last years, numerous tools have been used to assess QoL among ACPs^{11,12}. European Organization for Research and Treatment of Cancer Quality of Life Questionnaire - Core Questionnaire (EORTC QLQ-C30) and its supplements are clinically relevant, self-completed, short, simple and have been used to assess hospitalized ACPs^{3,13,14}. They can help identify high-risk patients, al-

leviate prominent symptoms that are common in many ACPs and contribute to care decisions^{5,15}. Furthermore, the concurrent use of several needs' assessment tools may identify potential gaps in patients' care and may help to design efficient and individualized support and palliation¹⁶.

Greek ACPs are treated as inpatients in oncology wards or as outpatients in day care clinics of oncology departments and usually die in the hospital¹⁷. The existing oncology departments in Greece are overcrowded, understaffed and the medical and nursing personnel work under intense conditions. Patients' needs are often underestimated and inadequately managed by overburdened nursing staff¹⁸. Moreover, palliative care units, organized supportive groups, home-care nursing networks, and social support are limited¹⁹. Hence, it is understandable that a holistic approach of Greek ACPs is required during hospitalization, with the aim to identify problems negatively affecting QoL and plan the right therapeutic strategies. The aim of the current study was to determine QoL, satisfaction from given care, as well as differences in QoL between ACPs with solid tumors, cared for as inpatients at the oncology ward and those treated as outpatients at the day care clinic.

Materials and Methods

Participants

The sample of the study consisted of 95 ACPs. Its size was based on the number of in- and day care clinic patients cared for, during the month preceding the research. They were randomly selected according to the number of the three common types of cancer of the two services (multistage proportional stratified probability sampling). Of them, 39 (41.1 %) were treated as inpatients at the oncology ward and 56 (58.9 %) as outpatients at the day care clinic of the department of Medical Oncology of the University hospital of Heraklion, Crete, Greece, between November 2007 and February 2008. All ACPs with breast, lung, and colon cancer were invited to participate during their care (at the oncology ward or day care clinic) if they met the inclusion criteria: age >18 years old, ability to speak and write fluently in Greek, having had at least one chemotherapy treatment or two months' time period from the disease's diagnosis. From the initial sample, four patients were excluded, three because of their extremely poor mental state and one who refused to participate; all were replaced in accordance with the randomization procedure. Patients completed the questionnaires only once, although many of them visited the hospital repeatedly during the study period. The study was approved by the Hospital's Ethical Committee (approval No 5413, 16/05/2007) and all patients signed an informed consent letter.

Measures

All patients were assessed with EORTC QLQ-C30 (version 3) questionnaire. Lung cancer patients were also assessed by its supplement, the Lung Cancer Ques-

tionnaire (EORTC QLQ-LC13), while all breast cancer patients by the Breast Cancer Questionnaire (EORTC QLQ-BR23)²⁰. These tools are widely used as cancer-specific questionnaires for assessing QoL in cancer patients and are translated and validated in Greek^{21,22}. Colon cancer patients were assessed by the QLQ-C30, since no specific questionnaire for this condition had been translated and validated in Greek at the time the study was carried out. The EORTC QLQ-C30 (version 3) consists of 30 items: five functioning scales (physical, role, emotional, cognitive, and social functioning – 15 questions), three symptom scales (fatigue, pain, nausea and vomiting – seven questions), a global health status/ QoL scale (two questions), and six single items (dyspnea, insomnia, appetite loss, constipation, diarrhea, and financial difficulties). EORTC QLQ-LC13 scale consists of 13 questions, one multiple-item scale to assess dyspnea and a series of single items assessing coughing, hemoptysis, sore mouth, dysphagia, peripheral neuropathy, alopecia, pain, and pain medication²³. EORTC QLQ-BR23 consists of 23 questions in four functional scales (body image, sexual functioning, sexual enjoyment and future perspective) and in four symptom scales (systemic therapy side effects, breast symptoms, arm symptoms, upset by hair loss)²⁴. Each item is measured on a four-point response scale (not at all, a little, quite a bit, very much), with the exception of the two items measuring global health and quality of life, which are measured on a seven-point response scale. Scale scores were linearly transformed into a score ranging from 0–100²⁵. A higher score reflects a higher (better) functional status and a higher (worse) level of symptoms. The scoring approach for the QLQ-LC13 and QLQ-BR23 is identical in principle to that for the symptom scales/single items of the QLQ-C30. The stage of the disease and patient information such as age, marital status, place of residence and education, were obtained from their medical records. Patient satisfaction with care was assessed with a 10-point scale, in which greater values reflect better satisfaction. The mean duration of completing all the questionnaires was 10-15 minutes.

Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) software for Windows, version 23.0 (IBM SPSS, IBM Corp., Armonk, NY, USA). The reliability of each scale (i.e. internal consistency) was assessed by Cronbach's alpha coefficient. Normality of global health status/QoL score was examined using Q-Q plots (Blom's method). Then global health status score was assessed according to these characteristics, using Kruskal-Wallis and Mann-Whitney tests (in post hoc comparisons). Due to some QLQ-scores being skewed (not the global health status/QoL score), the median and ranges were presented for all scores. Finally, hierarchical (nested) multiple linear regression analysis of global health status/QoL score was performed in relation to demographic and clinical characteristics. In the first model, characteristics and hospital visits during the last month

were used as predictive parameters; in the second model, all previous parameters, in addition to department care and degree of satisfaction with given care were used. A post hoc analysis to calculate the power of the study was conducted with the use of G*Power 3.1²⁶ and based on parameters of the current results. According to analysis, the power was found to be equal to 0.977 ($R^2 = 0.168$, effect size = 0.201, $n = 95$, $\alpha = 0.05$, number of tested predictors = 2, number of total predictors = 6, $\lambda = 19.2$, critical $F = 3.1$ and denominator d.f. = 88).

Results

Ninety-five ACPs (41.1 % males) participated in the study and completed all questionnaires. Their demographic characteristics are shown in Table 1. Their mean age was 59.8 years, while the diagnoses were almost equally distributed among breast ($n = 32$, 33.7 %), lung ($n = 32$, 33.7 %), and colorectal cancer ($n = 31$, 32.6 %). Of the participants, 39 (41.1 %) were admitted to the oncology ward, while the others to the day care clinic. The majority of patients were married (74.5 %), with only primary or no formal education (48.9 %), residents of the city or the greater area of Heraklion (55.8 %) and had visited the hospital at least three times over the last two months (73.4 %). Lower global QoL scores were recorded among patients aged ≤ 65 years, singles, females, better educated and those who had lung cancer, but the differences were not statistically significant. Patients cared for at the oncology ward reported lower global QoL scores than those treated at the day care clinic (55.6 versus 67.6, $p = 0.017$). In addition, patients who scored their satisfaction as “not

satisfactory” (score < 8 , grade 0-10) also reported lower scores of QoL, although not statistically significant ($p = 0.075$).

Patients with higher education were less satisfied with the care provided as compared to patients with secondary or primary education (43.8 %, 25.8 %, and 17.8 %, respectively, $p = 0.046$). Additionally, patients ≤ 65 years old were less satisfied comparing to those with > 65 years of age (33.9 % and 11.8 %, respectively, $p = 0.02$) (Table 2).

For QLQ-C30 functioning scales, the reliability coefficients were adequate (≥ 0.80) with the exception of the cognitive scale (Cronbach's $\alpha = 0.61$) as well as in sexual functioning of QLQ-BR23 ($\alpha = 0.58$) or QLQ-BR23 symptom scales ($\alpha < 0.70$). The mean global health status/QoL score was 62.6. In the functioning scales, higher scores were observed in the cognitive, physical and emotional domains (75.4, 66.8, and 66.6 respectively; *higher scores show a better QoL*) (Table 3). In symptom scales/items all patients reported mean symptom scores < 50 (range 0-100), while higher mean scores were observed for fatigue (41.8), dyspnea (36.2) and insomnia (30.9); (*lower scores show a better QoL*). In contrast, the lowest mean scores were observed for diarrhea (7.1), nausea and vomiting (15.1). In the QLQ-LC13 symptom scale, patients with alopecia, coughing, and peripheral neuropathy reported lower QoL (46.2, 31.3 and 30.2, respectively). In QLQ-BR23, the highest functional score was found for body image (64.8). On the contrary, QoL was negatively affected when conceptualized as sexual functioning/enjoyment and future perspective. When assessing the sex-

Table 1: Demographic and clinical characteristics of the study sample consisting of 95 Greek patients with advanced breast, lung and colon cancer.

		Global health status/QoL		
		n (%)	mean (SD)	p value ^a
Total		95	62.6 (24.5)	-
Gender	male	39 (41.1)	64.3 (25.1)	0.667
	female	56 (58.9)	61.5 (24.1)	
Age (years)	≤ 65	60 (63.2)	62.5 (25.0)	0.946
	> 65	35 (36.8)	62.9 (24.5)	
	mean (SD) [range]	59.8 (11.9) [33-77]	-	-
Type of cancer	lung	32 (33.7)	58.9 (27.3)	0.318
	colon/rectum	31 (32.6)	68.5 (17.2)	
	breast	32 (33.7)	60.7 (27.0)	
Site of care	oncology ward	39 (41.1)	55.6 (24.9)	0.017
	oncology day care clinic	56 (58.9)	67.6 (23.1)	
Marital status	married	70 (74.5)	63.9 (25.2)	0.362
	single	6 (6.4)	54.2 (8.7)	
	divorced, widowed	18 (19.1)	61.6 (25.4)	
Place of residence	near hospital	53 (55.8)	63.7 (24.7)	0.589
	greater area	42 (44.2)	61.3 (24.4)	
	higher (college, universities)	16 (17.0)	54.2 (27.7)	
Education	secondary school	32 (34.0)	65.9 (20.7)	0.230
	primary or no education	46 (48.9)	63.2 (25.7)	
	one, two	25 (26.6)	57.0 (25.9)	
Hospital visits during last two months	three, four	21 (22.3)	70.6 (23.1)	0.133
	five or more	48 (51.1)	62.7 (23.8)	
Degree of satisfaction from care ^b	< 8	24 (25.8)	55.9 (19.6)	0.075
	≥ 8	69 (74.2)	64.6 (25.9)	

QoL: Quality of Life; n: number, SD: standard deviation, ^a: Kruskal-Wallis or Mann-Whitney tests (Mann-Whitney test was used in post hoc comparisons and no significant differences were found), ^b: Care satisfaction was assessed in a scale from 0 (not satisfied) to 10 (very satisfied). Eight corresponds to median value.

Table 2: Degree of satisfaction from care according to demographic and clinical characteristics of the study sample consisting of 95 Greek patients with advanced breast, lung and colon cancer.

		Degree of satisfaction from care ^a		p value
		<8, n =24	≥8, n =69	
		%		
Gender	male	20.5	79.5	0.321
	female	29.6	70.4	
Age (years)	≤65	33.9	66.1	0.020
	>65	11.8	88.2	
Type of cancer	lung	19.4	80.6	0.307
	colon/rectum	22.6	77.4	
Site of care	breast	35.5	64.5	0.811
	oncology ward	28.2	71.8	
Marital status	oncology day care clinic	24.1	75.9	0.064
	married	23.2	76.8	
Place of residence	single	66.7	33.3	0.816
	divorced, widowed	23.5	76.5	
Education	near hospital	26.9	73.1	0.046
	greater area	24.4	75.6	
Hospital visits during last two months	higher (college, universities)	43.8	56.3	0.352
	secondary school	25.8	74.2	
	primary or no education	17.8	82.2	
	one, two	20.8	79.2	
	three, four	38.1	61.9	
	five or more	23.4	76.6	

Chi-square tests. n: number, ^a: Care satisfaction was recorded in a scale from 0 (not satisfied) to 10 (very satisfied).

ual functioning (two items), only six out of 30 patients responded ‘a little’ to the question “To what extent were you sexually active”, and all others answered that they were not sexually active. These six patients could answer the next question about sexual enjoyment (four said “not at all” satisfied). In QLQ-BR23 symptom scales/items worse QoL was observed in hair loss (54.4) and systemic side effects (28.3). Nevertheless, no significant differences were found in functioning and symptoms scales between types of cancer, as they were recorded by the general EORTC QLQ-C30 questionnaire.

Table 4 summarizes the multiple regression analysis of the global health status/QoL scores in relation to patients’ demographic and clinical characteristics. In the first model, neither characteristics nor hospital visits by the patients were significantly related to global health status/QoL score ($p > 0.05$). In the second model, satisfaction from care was positively related to global health status/QoL score (stand. beta =0.310, $p = 0.009$) but not to the site of care (ward or day care clinic) (stand. beta =0.204, $p = 0.061$).

In all functioning scales of QoL (Figure 1), patients treated at the day care clinic reported higher global health status/QoL scores than inpatients, while significant differences were observed in their global health status (67.6 versus 55.6, respectively, $p = 0.017$), role functioning (72.0 versus 54.3, respectively, $p = 0.017$) and physical functioning (72.5 versus 58.6, respectively, $p = 0.007$).

Similar findings were observed for the symptoms scales scores (Figure 2). Day care clinic patients reported lower scores in all parameters but the differences were statistically significant only for appetite loss (39.3 versus 22.0, respectively, $p = 0.034$) and financial difficulties (34.2 versus 22.6, respectively, $p = 0.044$).

Discussion

Measurement of QoL is an important factor for a holistic assessment of ACPs. It provides an overall view of the patients’ health status, without disrupting the clinical routine. Additionally, it estimates the effects of symptoms to each individual patient and helps provide better supportive care.

In the present study, global health status and QoL scores have shown good functioning and symptom scales in all participants, consistent with previous findings among Greek cancer patients^{27,28}. However, low levels of QoL have been reported in ACPs by other authors due to many distressing symptoms affecting both functioning and symptoms scales^{4,13,29}. Among the present patients, symptoms with the highest mean score were fatigue, followed by dyspnea and insomnia, as already reported by others¹⁵. These symptoms, with the exception of dyspnea, were also reported as highest in a national representative sample of ACPs in Denmark³⁰. Additionally, in this study was found higher role function as compared to global health status/QoL. Of note, this has also been previously reported in another Greek study for breast and oral cavity cancer patients²⁸.

The oncology departments’ environment has a strong impact on the patients’ well-being and functioning³¹. Furthermore, nursing care is a significant determinant of patients’ satisfaction and therefore is associated with higher QoL³². The high QoL level of the present group of patients and the lower reported intensity of symptoms may be related to the attitude of Greek cancer patients to be treated or supported in hospitals as inpatients or outpatients, due to the limited availability of palliative care services. Frequent visits to the hospital, as reported by ACPs in this study, and cooperation with health professionals may lead to earlier and easier recognition of exist-

Table 3: EORTC QLQ-C30, QLQ-LC13 & QLQ-BR23 questionnaires scores of the 95 Greek patients with advanced breast, lung and colon cancer.

	n	mean (SD)	median (range)	Cronbach's α ^a
<i>Functioning scales/items (higher score show better QoL)</i>				
QLQ-C30				
Global health status/QoL	95	62.6 (24.5)	66.7 (0, 100)	0.94
Social functioning	95	64.2 (27.5)	66.7 (0, 100)	0.88
Role functioning	95	64.7 (31.4)	66.7 (0, 100)	0.85
Emotional functioning	95	66.6 (22.9)	66.7 (16.7, 100)	0.80
Physical functioning	95	66.8 (24.0)	73.3 (0, 100)	0.86
Cognitive functioning	95	75.4 (22.1)	83.3 (16.7, 100)	0.61
QLQ-BR23				
Body image	32	64.8 (28.0)	66.7 (0, 100)	0.91
Future perspective	31	36.6 (34.8)	33.3 (0, 100)	-
Sexual enjoyment	6	16.7 (27.9)	0 (0, 66.7)	-
Sexual functioning	30	12.8 (17.3)	0 (0, 66.7)	0.58
<i>Symptoms scales/items (lower score show better QoL)</i>				
QLQ-C30				
Fatigue	95	41.8 (28.2)	44.4 (0, 100)	0.83
Dyspnea	94	36.2 (31.2)	33.3 (0, 100)	-
Insomnia	95	30.9 (33.4)	33.3 (0, 100)	-
Appetite loss	95	29.1 (34.5)	0 (0, 100)	-
Pain	95	28.8 (28.4)	33.3 (0, 100)	0.85
Financial difficulties	95	27.4 (29.2)	33.3 (0, 100)	-
Constipation	95	26.7 (29.8)	33.3 (0, 100)	-
Nausea and vomiting	95	15.1 (27.1)	0 (0, 100)	0.85
Diarrhoea	94	7.1 (16.8)	0 (0, 66.7)	-
QLQ-LC13				
Alopecia	31	46.2 (35.1)	33.3 (0, 100)	-
Coughing	32	31.3 (30.5)	33.3 (0, 100)	-
Peripheral neuropathy	32	30.2 (29.8)	33.3 (0, 100)	-
Dyspnoea	32	21.1 (26.8)	11.1 (0, 100)	0.88
Pain in arm or shoulder	32	19.8 (31.5)	0 (0, 100)	-
Dysphagia	32	17.7 (30.5)	0 (0, 100)	-
Pain in other parts	31	17.2 (16.9)	33.3 (0, 33.3)	-
Pain in chest	32	15.6 (25.4)	0 (0, 100)	-
Sore mouth	32	14.6 (25.3)	0 (0, 66.7)	-
Haemoptysis	32	3.1 (9.9)	0 (0, 33.3)	-
QLQ-BR23				
Breast symptoms	32	11.7 (14.8)	8.3 (0, 50.0)	0.69
Arm symptoms	32	22.9 (21.5)	22.2 (0, 88.9)	0.69
Systemic therapy side effects	32	28.3 (14.3)	26.2 (0, 57.1)	0.52
Upset by hair loss	19	54.4 (29.8)	66.7 (0, 100)	-

n: number, SD: standard deviation, EORTC: European Organization for Research and Treatment of Cancer, QLQ-C30: Quality of life Questionnaire, QLQ-BR23: Quality of Life Questionnaire Breast 23, QLQ-LC13: Quality of life Questionnaire Lung 13, QoL: Quality of Life, *: Estimations from multi-item scales only.

Table 4: Hierarchical multiple linear regression analysis of Global health status/ Quality of Life score in relation to demographic and clinical characteristics of the study sample.

Predictors	1 st model			2 nd model		
	Standardized betas	t	p value	Standardized betas	t	p value
Gender	-0.085	-0.69	0.491	-0.135	-1.14	0.259
Age	-0.112	-0.93	0.353	-0.193	-1.67	0.099
Marital status	-0.041	-0.37	0.715	-0.021	-0.20	0.844
Place of residence	-0.043	-0.38	0.707	-0.097	-0.87	0.385
Education	0.139	1.22	0.225	0.038	0.35	0.731
Hospital visits during last two months	0.100	0.89	0.376	-0.006	-0.06	0.954
Site of care				0.204	1.90	0.061
Degree of satisfaction from care				0.310	2.69	0.009
R ² adjusted		0.039			0.168	

Categorical predictors were defined as gender (1: male, 2: female), marital status (1: married, 2: single, 3: divorced, widowed), place of residence (1: near hospital, 2: greater area), education (1: higher as college or university, 2: secondary school, 3: primary or no education), and site of care (1: oncology ward, 2: day care clinic).

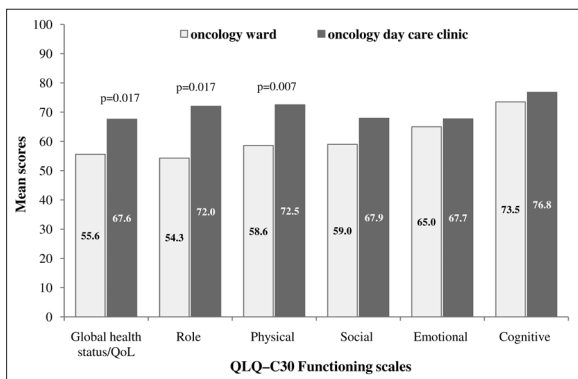


Figure 1: Relationship between functioning scales of quality of life and site of care for the 95 Greek patients with advanced cancer, included in this study. Mann-Whitney test analysis. Higher score shows a better quality of life. QLQ-C30: Quality of life Questionnaire, QoL: Quality of Life.

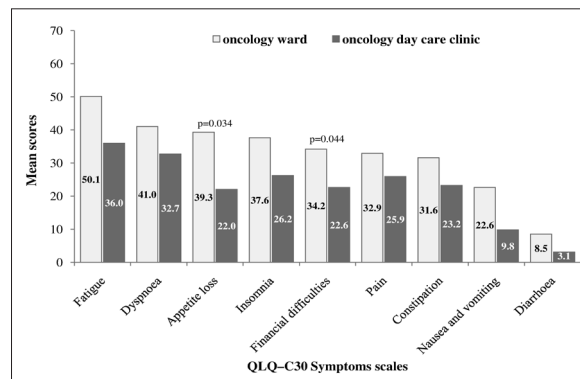


Figure 2: Relationship between symptom scales of quality of life and site of care for the 95 Greek patients with advanced cancer, included in this study. Mann-Whitney test analysis. Lower score shows a better quality of life. QLQ-C30: Quality of life Questionnaire.

ing problems. In addition, it has to be taken into account that in Greece there are close family relationships and the family members constantly support their ill relatives in every step of the therapeutic procedure, in close collaboration with the nursing and medical staff.

The present findings did not show any association between patients' demographic characteristics and the global QoL score. However, associations of patient's education, age, gender, and QoL have been observed in previous studies, with women, younger patients and better-educated individuals, reporting worse QoL^{13,33}.

Breast cancer patients in the present study, measured with the QLQ-BR23 questionnaire, reported good QoL, with the exception of future perspective, hair loss, and sexuality. Worse QoL regarding future perspective is presumably due to the advanced disease, the low life expectancy, and the coexisting depression. Hair loss, especially in women, induces physical and psychological distress (loss of self-esteem, alteration of body image, sadness, irritability and problems with sexuality), although it is not life threatening³⁴. Additionally, the present findings indicated that the majority of women reported low sexual functioning and satisfaction and, therefore, decreased QoL as also shown by other investigators³⁵. Discussion about sexuality is difficult, especially among traditional and conservative Greek women, either because most of them are not ready to discuss it with "strangers" or because they believe that it is not a side effect related to the disease or its treatment. Bell et al found that a Greek subgroup of inpatients, compared to other immigrants and Anglo-Australian cancer patients, was characterized by highly missing informative sex data, ranging from 58-64 % in two different questionnaires³⁶. Numerous barriers prevent physicians and nurses from initiating a conversation and providing sexual advice to patients, including the inadequate training, the level of embarrassment, the underestimation of patients' priorities and the importance of sexual problems in QoL^{37,38}. These problems highlight the need for specific sexual dysfunction screening and

the importance of giving information and support to patients for their unmet sexual needs³⁷.

Elevated scores in QLQ-LC13 were recorded for alopecia, coughing and peripheral neuropathy, while dyspnoea, which was expected to be a most distressing symptom in lung ACPs^{13,30}, showed only average scores.

The present study didn't report any significant differences in the global QoL, functional and symptom scales of the QLQ-C30 questionnaire between the different types of cancers studied. This is probably due to an increased incidence of similar symptoms among ACPs with different types of cancer, as well as those with end-stage disease^{39,40}. Solano et al reviewed 33 articles assessing the prevalence of 11 common symptoms in ACPs in samples ranging from 2,888 to 10,379 patients for each symptom and reported that pain, breathlessness, and fatigue were reported among more than 50 % of them³⁹. Thus, although it is necessary to investigate the presence and the intensity of each symptom and their effect on QoL through routine assessment, it is more important to accept that some symptoms are universal, especially among patients with short life expectancy. They must be recognized and treated with prearranged plans as soon as possible after hospital admission, in order to achieve better palliation of symptoms⁴¹.

This study demonstrated that inpatients had worse QoL in all parameters as opposed to patients treated in the day care clinic. In particular, appetite loss and financial difficulties were the most pronounced complaints. Appetite loss among inpatients ACPs was probably due to their worse general condition and partially due to the dissatisfaction with hospitals' food menus. Financial difficulties among inpatients can be explained by the burden being hospitalized far from their domiciles and being accompanied by at least, one family member, while day care clinic patients return to their homes.

From the present study, we cannot conclude that the better score on functional scales of QoL in ACPs of the day care clinic is only due to the better satisfaction from

the care provided. We can assume that patients with severe symptoms and poorer QoL are treated as inpatients at the oncology ward. However, it is reasonable that every effort must be made aiming ACPs to be treated in day care clinics, or at homes, since it has been reported to be easier for the patient as well as less costly⁴².

The present study has some limitations. Firstly, the number of patients in each group was small, but still representative of the Cretan hospitalized ACPs, since the University Hospital, where the study was conducted, is the biggest and the only fully organized oncology center of the island. Secondly, the study measured symptoms at a single point in time and not repeatedly during the whole course of the disease. Thirdly, at the time the study was carried out, a translated and validated in Greek version of the EORTC QLQ-CR38 (colon cancer specific) did not exist. Hence, for these patients, only the QLQ-C30 questionnaire was used. Finally, a relative limitation is that the study was carried out a few years ago due to slow recruitment of ACPs and different research and implementation phases. However, improvements in treatment and increased survival over the last years, did not significantly change nursing care and the appearance and frequency of symptoms in ACPs.

Conclusion

In conclusion, Greek ACPs in oncology wards and day care clinics reported an overall good QoL, functional and symptom scores and were satisfied with the given care. Future studies with larger samples and other types of cancer of Greek ACPs are required to investigate their expectations, their needs for supportive care and the interrelations between needs, satisfaction, and quality of care. Moreover, frequent and timely assessment of QoL by Greek health professionals in daily clinical practice will lead to the development of personalized interventions, the evaluation of their efficacy and finally deeper understanding of the cancer trajectory.

Conflict of interest

Authors declare no conflict of interest.

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