Frequency Of Fibromyalgia Syndrome And Effects of the Pain Distribution on the Quality of Life In Hospitalized Cancer Patients

Hospitalize Kanser Hastalarında Ağrı Yayılımının Yaşam Kalitesi Üzerine Etkisi ve Fibromiyalji Sıklığı

Sibel Eyigör, Hale Karapolat[1], Onur Kıvılcım Korkmaz[1], Can Eyigör[2]
Rüçhan Uslu[3], Berrin Durmaz[4], Meltem Uyar[5]
Ege University Faculty of Medicine Physical Therapy and Rehabilitation Department,
Tülay Aktaş Oncology Hospital, Supportive Care Unit, [1]Physical Therapy and Rehabilitation Department,
[2]Anestesiology Department, [3]Tülay Aktaş Oncology Hospital, Supportive Care Unit,
[4]Physical Therapy and Rehabilitation Department and [5]Anestesiology Department, İzmir, Turkey

Abstract

Objective: Even though knowledge on palliative care cumulates, our experience on the symptoms affecting the quality of life among hospitalized cancer patients is still limited. Therefore, we planned to explore the frequency of Fibromyalgia Syndrome (FMS) among hospitalized cancer patients and address the relation between pain, fatigue and quality of life with regard to the extent of pain.

Patients and Methods: One hundred and twenty two hospitalized cancer patients were included in this study. Data on demographics, pain (visual analog scale, verbal scale), sleep quality, disease impact (Fibromyalgia Impact Questionnaire -FIQ), fatigue (Brief Fatigue Inventory-BFI), quality of life (Short Form 36 [SF36], and the European Organization for Research and Treatment of Cancer [EORTC QLQ-C30]) were gathered using standard measures. According to the extent of pain, hospitalized cancer patients were divided into three groups; widespread pain, regional pain, no pain.

Results: Thirteen of the hospitalized cancer patients (10.7%) included in the study were diagnosed with FMS. There were no statistically significant differences among the three pain groups, with respect to demographic characteristics ($p>0.05$). There were, on the other hand, significant differences among groups with regard to the presence of metastasis, fatigue, sleep disorder, pain, BFI, FIQ, physical function, bodily pain, general health, vitality, social function, and mental health sub-scores of SF36, and EORTC-QoL-C30 scores ($p<0.05$).

Conclusions: In the present study, we have calculated the frequency of FMS among patients admitted to the oncology hospital in addition to establishing the relations between intensity of pain, fatigue, and quality of life with regard to the physical extent of pain. We believe that the descriptive data presented in this study would be helpful in future studies and therapeutic approaches. *(Rheumatism 2007; 22: 126-31)*

Key words: Cancer, fibromyalgia, pain, fatigue, quality of life

Özet

Amaç: Hospitalize kanser hastalarında, palyatif bakım ile ilgili bilgilerimiz artıyor olsa da, semptomların hastaların yaşam kalitesine etkileri ile ilgili bilgilerimiz hala sınırlıdır. Bu nedenle, çalışmamızda hospitalize kanser hastalarında fibromyalji sendromu (FMS) sıklığını ve ağrı yayılımına göre, ağrı yorgunluk ve yaşam kalitesi arasındaki ilişkiyi ortaya koymayı planladık.

Hastalar ve Yöntem: 122 hospitalize kanser hastası çalışmaya dahil edildi. Demografik veriler, ağrı (vizüel analog skala ve verbal skala), uyku kalitesi, hastalık etkisi (Fibromyalgia Impact Questionnaire –FIQ), yorgunluk (Brief Fatigue Inventory-BFI), yaşam kalitesi (kısa form 36- KF36 ve European Organization for Research and Treatment of Cancer [EORTC QLQ-C30]) standart ölçümler ile değerlendirildi. Hospitalize kanser hastaları ağrı yayılımına göre, yaygın ağrı, bölgesel ağrı, ağrısız olarak üç gruba ayrıldılar.

Bulgular: Çalışmaya dahil edilen hospitalize kanser hastalarından on üç tanesi (%10,7) FMS tanısı aldı. Ağrı yayılımına göre üç grup arasında, demografik karakteristikler açısından anlamlı fark saptanmadı ($p>0,05$). Diğer taraftan, metastaz varlığı, yorgunluk, uyku problemi, ağrı, BFI, FIQ, KF36 fiziksel fonksiyon, ağrı, genel sağlık, vital, sosyal fonksiyon ve mental sağlık ve EORTC-QoL-C30 alt gruplarına göre gruplar arasında istatistiksel anlamlı fark görüldü ($p<0,05$).

Sonuç: Çalışmamızda, onkoloji hastanesine kabul edilen hastalardaki FMS sıklığı ve bunun yanında ağrı yayılımına göre, ağrı, yorgunluk ve yaşam kalitesi arasındaki ilişkiler ortaya konulmuştur. Bu çalışmada elde edilen sonuçların, gelecek çalışmalara ve tedavi yaklaşımlarına yardımcı olacağı düşüncesindeyiz. *(Romatizma 2007; 22: 126-31)*

Anahtar kelimeler: Kanser, fibromyalji, ağrı, yorgunluk, yaşam kalitesi

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Address for Correspondence/Yazışma Adresi: Sibel Eyigor, MD, Ege University Faculty of Medicine
Physical Medicine and Rehabilitation Dept. 35100 Bornova, Izmir, Turkey
Tel: +90 232 390 36 87 Fax: +90 232 388 19 53 E-mail: eyigor@hotmail.com

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Introduction

There has been an increase in the life span of cancer patients, thanks to the advances in diagnostic tools and treatment modalities (1). Most of these patients gain functional capacity and return to their normal life. Recently, however, it has been emphasized that an improvement in the quality of life is a prerequisite to conclude that a treatment is successful (1,2). Consequently, there has been an increase in studies on quality of life and factors influencing it (3-7). However, data pertaining to our country on quality of life in cancer patients and factors contributing to it is very limited (8).

Long-term disease and treatment-related symptoms, such as chronic pain, can have wide-ranging consequences for health, functioning, and life quality. Pain is one of the major problems faced by cancer patients (9-11). It has been argued that pain is present in 30% of the patients at the time of diagnosis, increasing to 65-85% as the disease progress (19). Data also exist showing that widespread pain decreases cancer survival (11). Pain is also present in 90% of all hospitalized cancer patients (12). Despite its prevalence, our knowledge on pain among hospitalized cancer patients is limited (13,14). Meanwhile, fatigue, observed in some 61% of cancer patients, is the most common complaint (15). Pain and fatigue are important because they stand at the forefront of factors adversely affecting these patients with regard to general health, function and quality of life (16).

Fibromyalgia syndrome (FMS) is a chronic disease, characterized by widespread pain, sleep disorders and fatigue (17). It has been postulated that chronic pain in FMS patients is due to the central sensitivity secondary to the chronic input by the peripheral nerve. It has also been thought that different traumas (such as surgical) may be responsible of triggering FMS and its persistence (18). The onset of symptoms can be related to psychological stress, somatization and fatigue. It has been reported that the onset of pain is related to the behavior of the disease (17). Reports on mastectomy with or without breast reconstruction have found a significant risk for development of FMS (19). In both breast cancer patients and FMS patients, upper body trauma may be a factor in the onset and persistence of chronic widespread pain. For many patients, the chronic pain began immediately after surgery or early in the post-surgical treatment period. However, chronic pain that begins later in the post-surgical period after weeks or months may be less likely to be recognized and aggressively treated. Notably, FMS tends to be diagnosed only after a long period of persistent pain and failed local treatment. It has also been argued that the presence of FMS affects the functional status of cancer patients (20). These findings are important because dysfunction, disability and detriments to quality of life are substantial in the cancer population. Even though the frequency of FMS is not low, prevalence studies are scarce (17). The frequency among hospitalized cancer patients of this syndrome associated with pain and fatigue is largely unknown.

Primary aim of the present study was to explore the frequency of FMS, one of widespread pain syndromes, among hospitalized cancer patients and the secondary aim was to explore the relations between pain, fatigue and quality of life with regard to the extent of the pain in hospitalized cancer patients.

Patients and Methods

In this descriptive study, one hundred and twenty two patients admitted to the University Oncology Hospital for treatment and followed by the Supportive Care Unit are included in the study. Inclusion criteria were: being 18 years of age and over, consenting to participate in the study, having general status and cognitive functions good enough to understand and answer the questions. Patients were given information on the study and those who agreed to participate were included in the study.

Patient query form has been used to obtain demographical data. History of the disease has been extracted from the patient records. Pain, fatigue and sleep statuses have been explored with short-answer questions.

Short-answer questions such as the localization of pain (widespread pain-regional pain-no pain), fatigue, type of fatigue (morning fatigue-getting tired easily during the day), sleep disorder, morning stiffness were answered with “present” and “absent”. Pain was assessed using visual analog scale (VAS) and verbal pain rating (0: no pain, 1: mild, 2: moderate, 3: severe, 4: unbearable). Hospitalized cancer patients according to the extent of pain were divided into three groups as widespread pain, regional pain, no pain.

For sleep disorders, questions regarding the number of nights with difficulty falling into sleep, the frequency of waking up at night during the previous week (0: did not wake up at all, 1: woke up some nights, 2: woke up every night), mean length of sleep in the previous week, and unrefreshing sleep (0: waking up refreshed, 1: sometimes waking up refreshed, 2: never waking up refreshed) were asked.

Body pain diagrams have been prepared for FMS patients and the subjects were asked to indicate the painful regions. Symptoms were queried in terms of FMS. Patients were examined for tender points, one of the diagnostic criteria of FMS, at 18 points bilaterally and the number of tender points was recorded. The diagnosis of FMS was established according to the American College of Rheumatology (21), based on history and physical examination.

Fatigue, quality of life and health status were assessed using the measures below.

The Brief Fatigue Inventory-BFI: BFI assesses the severity of fatigue and the impact of fatigue on daily routine activities. Zero point denotes no fatigue, while 1-3, 4-6, and 7-10 points indicate mild, moderate and severe fatigue, respectively (22).

The Short Form 36 -SF36: On this widely used index, there are 36 questions evaluating the quality of life. The SF36 explores eight dimensions of the quality of life, labeled as “physical function”, “role physical”, “bodily pain”, “general health”, “vitality”, “social function”, “role emotional”, and “mental health”. Higher scores indicate better health (23,24).

The European Organisation for Research and Treatment of Cancer -EORTC QLQ-C30: EORTC QLQ-C30 is a 30-item scale that measures the quality of life of cancer patients in which respondents receive scores for functional scale, symptom scale and global health scale. High scores for functional scale and global health scales indicate a good quality of life while high scores in symptom scale represent a high level of problems (25,26).

The Fibromyalgia Impact Questionnaire–FIQ: A 10-item instrument that measures difficulties with daily living activities and symptoms of pain, fatigue, morning tiredness, stiffness, job difficulty, depression and anxiety along with amount of work missed and overall well-being during the past week. A total score can range from 0 to 100 with higher score indicating greater impact (27,28).

Statistics: All data were analyzed using SPSS version 14 statistical software package for Windows. Descriptive statistics were used to characterize the sample. Chi-square test was used for categorical variables. Non-parametric tests were used for data analysis (Kruskal Wallis and Mann-Whitney U Test with Bonferroni correction, p values of <0.0167 were considered statistically significant for comparing the three groups). A p value less than 0.05 was considered significant.

Results

Mean age of the patients was 49.20±14.46 years, with 49.2% females and 50.8% males. Demographical data of the patients are presented in Table 1.

Among the hospitalized cancer patients included in the study, (n: 13) 10.7% were diagnosed with FMS. Mean FIQ score of patients with FMS was 58.56±13.69. FIQ score (higher in FMS) and bodily pain, general health and mental health sub-scores of SF36 (lower in FMS) were significantly different between patients with and without FMS ($p<0.05$) (Table 2).

When the patients were compared according to the extent of pain (widespread pain-regional pain-no pain), there were no statistically significant differences in sex, occupation, level of education, presence of co-morbidity, chemotherapy, radiotherapy and the type of cancer ($p>0.05$). There were statistically significant differences in the presence of metastasis, fatigue, sleep disorder; VAS pain scores; number of tender points; BFI; FIQ; physical function, bodily pain, general health, vitality, social function, and mental health sub-scores of SF36; all scores of EORTC-QoL-C30 between groups with regard to the extent of pain ($p<0.05$) (Table 3).

Discussion

Present study has established the frequency of FMS among cancer patients admitted to the oncology clinic of our hospital as well as the relations between pain, fatigue and quality of life with regard to the extent of pain.

There is no data on the prevalence of FMS among cancer patients though the frequency of FMS among other patient groups is well-established (17). Prevalence of FMS varies between 0.5- 6%, with 3.6% in Turkish females (29). In the present study, the frequency of FMS among hospitalized cancer patients was found as 10.7%, a ratio higher than general frequency. It has been known that the frequency of FMS increases in certain diseases (17). In a previous study, FMS has been found in breast cancer patients without a history of rheumatologic disease (26.09%) (20). And also, FMS affects the functional status in these patients (20). Authors concluded that patients with breast cancer should be aware of FMS. In a study conducted in Sweden, an increase in connective tissue disease has not been found in a group of patients who had breast surgery (cosmetic or reconstructive) (19). Similar to the results of the present study, FIQ scores of women who had surgery for breast cancer were comparable to the FMS scores (30). In the same study, similar to our results, FIQ scores were higher in the widespread pain group (30). As a result, we have estab-

Table 1. Demographic variables of hospitalized cancer patients

		n: 122
Age (Mean±SD)		49.20±14.46
Gender (% Female / Male) (n: 60/62)		49.2 / 50.8
Marital status (% Married/ Single) (n: 91/31)		74.6 / 25.4
Education level n (%)		
	Primary	48 (39.3)
	High School	45 (36.9)
	University	24 (19.7)
	Uneducated	5 (4.1)
Occupation n (%)		
	Houseworking	47 (38.5)
	Retired	48 (39.3)
	Employee	6 (4.9)
	Workman	7 (5.7)
	Other	14 (11.5)
Cancer type n (%)		
	Breast	8 (6.6)
	Lung	7 (5.7)
	Gastrointestinal	39 (32)
	Uro-Genital	19 (15.6)
	Soft tissue	18 (14.8)
	Skin	6 (4.9)
	Hematologic	13 (10.7)
	Primary not known	12 (9.8)
Chemotherapy (Mean±SD) (number)		5.42±6.54
Radiation therapy (Mean±SD) (day)		10.10±14.76
Co-morbidite n (%)		47 (38.5)
Metastasis n (%)		60 (49.2)
Fatigue n (%)		106 (86.9)
Un-refreshing sleep n (%)		81 (66.4)
Waking up at night n (%)		109 (89.3)

Table 2. Fatigue, disease impact, quality of life and health status scores differences between patients with and without FMS

	FMS (+) (n:13)	FMS (–) (n:109)	p
SF36	Median (Min-Maks)	Median (Min-Maks)	
Physical functioning	20 (0-60)	30 (0-100)	0.094
Physical role	0 (0-0)	0 (0-100)	0.349
Bodily pain	22 (0-90)	80 (0-100)	0.048*
General health	30 (5-72)	40 (5-92)	0.024*
Vitality	40 (30-55)	45 (0-70)	0.056
Social functioning	25 (0-50)	25 (0-100)	0.267
Emotional role	33.30 (0-100)	33.30 (0-100)	0.775
Mental health	40 (16-52)	44 (20-96)	0.026*
FIQ	54.57 (37.8-78.6)	49.95 (12.1-82.1)	0.045*
BFI	7.5 (2-10)	6.4 (0.3-10)	0.180
EORTC-QoL-C30			
Function Scales	49 (23-58)	47 (12-94)	0.525
Symptom Scales	33.3 (2.5-58)	35 (2.5-71)	0.427
Globale Health Scale	16.6 (0-83.3)	16.6 (0-100)	0.880

FMS- Fibromyalgia Syndrome, SF36- The Short Form 36, FIQ- The Fibromyalgia Impact Questionnaire, BFI- The Brief Fatigue Inventory, EORTC-QoL-C30- European Organization for Research on Treatment of Cancer questionnaires Quality of Life--C30, *p<0.05

Table 3. Pain, sleep, fatigue and quality of life score differences between groups with regard to the extent of pain

	Widespread Pain (WP) (n: 33) Median (Min-Max)	Regional Pain (RP) Median (Min-Max)	WP-RP p	No Pain (NP) (n: 41) Median (Min-Max)	WP-NP p	RP-NP p
VAS	7 (2-10)	2 (0-10)	*	0 (0-2)	*	*
The number of nights with difficulty falling into sleep	5 (0-7)	2 (0-7)	*	2 (0-7)	*	
Mean length of sleep	6 (4-16)	8 (4-12)		7 (2-10)		
The number of tender points	4 (0-14)	2.5 (0-7)	*	2 (0-6)	*	
SF36						
Physical functioning	20 (0-80)	40 (0-95)	*	30 (0-100)	*	
Physical role	0 (0-0)	0 (0-100)		0 (0-100)		
Bodily pain	22 (0-74)	62.5 (10-100)	*	90 (50-100)	*	*
General health	30 (5-50)	47 (10-92)	*	47 (5-87)	*	
Vitality	40 (30-65)	50 (25-70)	*	45 (0-70)		
Social functioning	0 (0-87.5)	25 (0-87.5)	*	25 (0-100)	*	
Emotional role	33.30 (0-100)	33.30 (0-100)		33.30 (0-100)		
Mental health	40 (16-64)	50 (20-84)	*	48 (24-96)	*	
FIQ	60 (46.7-82.1)	47.6(25.2-69)	*	46.9(12.1-65.3)	*	
BFI	8.1 (4.9-10)	7.1(1-10)		5.1 (0.3-10)	*	
EORTC-QoL-C30						
Function Scales	40.5 (16-74)	49(16-89)	*	52 (12-94)	*	
Symptom Scales	51 (25-66.6)	35 (2.5-71)	*	28 (2.5-51)	*	*
Globale Health Scale	16.6 (0-58.3)	16.6 (0-100)		33.3 (0-100)	*	

VAS- Visual Analog Scale, SF36- The Short Form 36, FIQ- The Fibromyalgia Impact Questionnaire, BFI- The Brief Fatigue Inventory, EORTC-QoL-C30- European Organization for Research on Treatment of Cancer questionnaires Quality of Life--C30, * p<0.05

lished the frequency of FMS among hospitalized cancer patients followed-up by the Supportive Care Unit. We believe that keeping the possibility of FMS among these patients in mind is important for the planning of treatments.

Cancer is a serious health problem that affects the patients' quality of life considerably (2). Cancer related symptoms may affect the biological behavior of the tumor and therefore may be important for prognosis (1,3,31,32). There are very few studies reflecting the quality of life of cancer patients in our country and factors that have impact on it (8). It should be kept in mind that if the clinicians do not have the knowledge on quality of life and symptoms such as pain and fatigue, they may be mistaken in their choice of appropriate and realistic treatment and estimation of survival (1,3,32,33). It has been reported that pain (31), and fatigue (33,34) are particularly important for survival. In another study, prevalence of pain in hospitalized cancer patients has been found higher than patients with other chronic diseases and it has been argued that it is related to distress in cancer patients (14). Another study did not find significant differences in demographic and surgical technical features between women who had surgery for breast cancer with regard to the extent of pain (30). However, the intensity of pain has been found higher in the widespread pain group (30). In the present study, VAS pain score and the number of tender points were higher in the widespread pain group, and the intensity of pain aggregated between moderate and unbearable pain. We also found higher ratios of widespread and regional pains in patients with metastasis.

Fatigue has been reported to be a permanent complaint in cancer patients. Emotional distress, sleep disorders, and the physical effects of the disease have been implicated in development of fatigue (7). It is known that it has a negative impact on the quality of life and functional capacity (14). In our study, in agreement with the literature (30), fatigue was more prominent in the widespread pain group. Further, fatigue was more prevalent in patients diagnosed with FMS.

Sleep disorders is a common complaint in cancer patients that is often neglected during clinical oncology practice (15). These complaints are especially common in patients with chronic pain (88%). However, no relation has been demonstrated between the intensity of pain and sleep disorder (15,34,35,36). In the present study, we have found higher level of sleep disorders in the widespread pain group. The percentages of waking up every night and waking up not refreshed were found higher in these patients. Our results indicate the necessity of treating pain, fatigue and sleep disorders collectively.

In our study, we found that cancer patients with widespread pain had lower quality of life scores. In another study, patients with pain had lower quality of life scores than those without pain (35). On the other hand, in the absence of relapse and co-morbid conditions, no statistically significant differences have been found in quality of life scores between patients with breast or colon cancer and normal population (4,36,37). However, general quality of life scores among our patients were not too high. This may be attributed to them being in the hospital. On the other hand, it should be kept in mind that the quality of life in these patients may be affected by the treatments and adverse events.

One of the strong points of the present study is its being the first study to report the frequency of FMS among hospitalized cancer patients. Furthermore, it presents the data obtained by a center providing support care in our country.

This study has certain limitations. The number of patients could have been more. It has been demonstrated that pain management in hospitalized cancer patients is not well-known and adequately carried out (8,13,37). In our study, treatment protocols of the patients and their consequences could have been considered. Cancer patients followed-up as an out-patient and healthy controls could have been included in the study as well. Moreover, the frequency of FMS in various types of cancer and the extent of pain could have been explored.

We believe that the descriptive data presented in this study would be helpful for future studies and therapeutic approaches. We think that data pertaining to our country presented in this study would serve as a reference for other studies.

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