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Musculoskeletal disorders, quality of life and depression in healthcare workers

Sağlık çalışanlarında kas-iskelet sorunları, yaşam kalitesi ve depresyon

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Abstract

Aim: This study was conducted to determine level of the musculoskeletal disorders (MSD), quality of life, fatigue, and depression among the healthcare professionals.

Materials and Methods: Questionnaires including the professional quality of life (ProQOL R-IV), which is composed of compassion satisfaction, burnout, and compassion fatigue subscales, beck depression inventory (BDI), and working-related MSD were distributed to the 450 avaible healthcare givers. This descriptive study was carried out in Atatürk Educational and Research Hospital between January 2012 and July 2013.

Results: Mean age was 33.71 ± 8.9 years in this study. MSD were reported in 82.8% of the study subjects. 45.5% of healthcare providers suffered from high risk scores for compassion satisfaction, 21.5% for burnout and 29.7% for compassion fatigue. Physicians had statistically significantly high risks scores for all subscales of ProQOL R-IV in comparison with other healthcare providers.

Conclusion: Being a healthcare provider, especially a physician, constitutes high risk factor for poor QOL. Young age, shorter duration of work experience, and existence of musculoskeletal problems comprises important risks for depression and self-reported fatigue among healthcare providers.

Keywords: Healthcare, musculoskeletal disorders, quality of life.

Öz

Amaç: *Çalışma, profesyonel sağlık çalışanlarında kas-iskelet sorunları, yaşam kalitesi, yorgunluk ve depresyon düzeylerini belirlemek amacıyla yapıldı.*

Gereç ve Yöntem: *Mesleki tatmin, tükenmişlik ve mesleki yorgunluk alt skalalarından oluşan profesyonellerde yaşam kalitesi ölçeği (ProQOL R-IV), beck depression inventory (BDI), ve meslekle ilişkili kas-iskelet sorunlarına (KİS) dair sorgulamalar, ulaşılabilen 450 sağlık çalışanına rastgele dağıtıldı. Bu tanımlayıcı çalışma, Atatürk Eğitim ve Araştırma Hastanesi'nde Ocak 2012 ve Temmuz 2013 tarihleri arasında yapıldı.*

Bulgular: *Çalışmada ortalama yaş 33.71±8.9'du. Çalışmaya katılanların %82.8'de KİS kaydedildi. Sağlık sunucularının %45.5'i mesleki tatmin, %21.5'i tükenmişlik ve %29.7'si mesleki yorgunluk açısından yüksek risk skorları taşıyordu. Doktorlar diğer sağlık çalışanları ile karşılaştırıldığında ProQOL R-IV'ün tüm alt skalaları açısından istatistiksel olarak belirgin yüksek risk skorlarına sahipti.*

Sonuç: *Sağlık çalışanı özellikle de doktor olmak kötü yaşam kalitesi açısından yüksek risk faktörü oluşturmaktadır. Genç yaş, mesleki deneyim süresinin kısalığı ve kas iskelet sorunlarının varlığı sağlık çalışanlarında depresyon ve yorgunluk açısından önemli risk oluşturmaktadır.*

Anahtar Sözcükler: *Sağlık hizmeti, yaşam kalitesi, kas-iskelet sorunları.*

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Introduction

Health care providers work in highly stressful conditions and this results in increased depression and poorer quality of life (QoL) of the subjects. Dissatisfaction of the providers will clearly affect the given health care facilities. The fourth revision of the 30-item professional quality of life (ProQOL R-IV) scale was developed for assessment of compassion satisfaction, burnout and compassion fatigue among professionals (1). Compassion fatigue is the profound emotional and physical exhaustion. Figley (2) described compassion fatigue as a condition of tension and preoccupation with the individual or cumulative traumas of clients. Compassion fatigue is also called secondary traumatic stress disorder (STSD) among professional healthcare givers who care for patients with post traumatic stress disorders. Burnout is the experience of physical, mental and emotional exhaustion among care providers usually as a result of prolonged stress. Both compassion fatigue and burnout terms have been used to describe states resulting from being continuously subjected to highly stressful conditions in a professional capacity (3). Compassion satisfaction is to be satisfied helping from others and it has been found to be positively related with low levels of compassion fatigue and burnout.

Musculoskeletal disorders (MSD) include a wide range of inflammatory and degenerative diseases of the locomotor systems, are the most widely encountered occupational diseases in Europe. Inflammation of the tendon, myalgias, entrapment syndromes, and degenerative disorders are the most common work-related MSD. They occur in occupations with large static work demands, performing manual handling and heavy physical work. They are major cause of reduced quality of life and work-related ability (4,5).

Healthcare givers take care of patients, but they frequently ignore their own physical and mental health. The poorer quality of life of healthcare professionals, especially adverse physical and mental health status, can result in medical errors in professional responsibilities. In this case, these may result in serious problems on patient's safety and satisfaction (6,7).

In this study, we aimed to investigate occupational characteristics, depression, fatigue, professional quality of life and the prevalence of musculoskeletal symptoms in our hospital's healthcare providers.

Materials and Methods

Participants

This study was approved by the Ankara Atatürk Education and Research Hospital Ethics Committee and written consent was obtained from each participant. This descriptive study was carried out in Ankara Atatürk Educational and Research Hospital between January 2012 and July 2013. The questionnaires including ProQOL, the multidimensional assessment of fatigue scale (MAF), the Beck Depression Inventory (BDI), and MSD, was distributed to 450 available healthcare givers in our hospital. About 1400 health staff works at our hospital. Convenience sampling was used and the questionnaires were distributed to health staff where they were together in the hospital such as seminar hall, cafeteria. On average 10-15 minutes were enough to fill the questionnaires in this study. The response rate among the healthcare professionals was 48.9%.

Assessments

The ProQOL R-IV is composed of three discrete subscales: Compassion satisfaction, burnout, and compassion fatigue. Each subscale has 10 items. Compassion satisfaction is to be satisfied helping from others. The manual of the ProQOL defines compassion satisfaction as ''the pleasure you derive from being able to do your work well'' Higher scores on this scale show a greater satisfaction related to job. The average compassion satisfaction score is 37 (SD 7; alpha scale reliability 0.87). If compassion satisfaction scores are below 33, there is high risk status for compassion satisfaction. Burnout, an emotional exhaustion, is associated with feelings of hopelessness. Higher scores on this scale represent a great risk for burnout. The average burnout score is 22 (SD 6; alpha scale reliability 0.72) If burnout scores are above 27, there is high risk for burnout. Compassion fatigue is the profound emotional and physical exhaustion related job. The symptoms of compassion fatigue may include being afraid and having difficulty in sleeping. The average compassion fatigue score is 13 (SD 6; alpha scale reliability 0.80). If compassion fatigue scores are above 17, there is high risk for compassion fatigue (1). The Turkish version of ProQOL R-IV was used in this study (8).

BDI was used to measure the intensity and severity of depression among all healthcare givers. BDI is composed of 21 items, each designed to detect a characteristic symptom common among people with depression (9). Participants who had BDI scores ≥17 were considered as a depressive.

MAF was used to assess the fatigue among healthcare workers. The MAF is a self-administered questionnaire developed to measure five dimensions of self-reported fatigue: degree (MAF1), severity (MAF2), distress (MAF3), impact on activities of daily living (MAF4) and timing (MAF5). It includes 16 items. The MAF scores range from 0 (no fatigue) to 50 (severe fatigue) (10).

Musculoskeletal symptoms were determined and presence of neck pain, low back pain, myalgia and/or leg pain were recorded in all participants. The duration of healthcare experience, job title, place of working, smoking history, financial conditions were recorded.

Statistics

Statistical analysis was performed using the 20.0 version of SPSS package programs. We investigated whether our data were normally distributed. Descriptive statistic tests were used to describe demographic characteristics of participants. A series of cross tabs were calculated to show the relationship between demographics and total scores on each of the three subscales of ProQOL R IV, using Pearson chi-square analysis. Mann-Whitney test was used in comparison of MAF total and BDI scores. The level of significance was set at $p<0.05$.

Results

Mean age of these 220 healthcare providers were 33.7±8.9 years (19-55), 70% (154) of participants were females and 53.6% (118) were physicians. Myalgia and low back pain were the most common musculoskeletal symptoms. MSD were seen in 82.8%, myalgia in 26.4% (58), low back pain in 24.1% (53), neck pain in 20.9% (46) and leg pain in 11.4% (25) of participants. The average compassion satisfaction score was 32.0±8.7 (3-50) and the average burnout score was 17.8±7.2 (2-36) in all participants. The average compassion fatigue score was 15.6±8.5 (2-43).

In this hospital, 45.5% of healthcare providers suffered from high risk scores for compassion satisfaction, 21.5% for burnout and 29.7% for compassion fatigue. The MAF total score was found as 27.9±10.5 (0-48.7). The mean BDI score was 9.2±7.9 (0-41). Depression was found in 18.2% of healthcare participants. Table-1 summarized the demographical characteristics, occupational characteristics, and clinical findings of healthcare providers.

Table-1. Demographical and Clinical Data of Healthcare Providers.

Participants (n=220)	**n (%), Mean±SD (min-max)**
Age(years)	33.7±8.9 (19-55)
Males/Females	66 (30.0)/154 (70.0)
Duration of work experience (years)	10.5±7.9 (1-38)
Marital status: Single	68 (30.9)
Smoking history	49 (22.3)
Occupation	
Physician	118 (53.6)
Nurse	48 (21.8)
Medical secretary	36 (16.4)
Other healthcare staff	18 (8.2)
Working Department	
Medicine Clinics	140 (63.6)
Surgical Clinics	80 (36.4)
Musculoskeletal symptoms	
Neck pain	46 (20.9)
Back pain	53 (24.1)
Leg pain	25 (11.4)
myalgia	58 (26.4)
Without musculoskeletal pain	38 (17.2)
ProHQOL	
Compassion satisfaction / high risk %	32±8.7 (3-50) / 45.5
Burnout / high risk %	17.8±7.2 (2-36) / 21.5
Compassion Fatigue / high risk % (n)	15.6±8.5 (2-43) / 29.7
MAF total	27.9±10.5 (0-48.7)
Beck Depression Inventory	9.2±7.9 (0-41)

Each of the ProQOL subscales based on cut scores were compared with the study variables including age, gender, occupation, specialty, duration of healthcare experience and presence of musculoskeletal symptoms. No statistically significant relationship was found between age and ProQOL subscales. Male gender was found to be significantly related with increased burnout and compassion fatigue. Physicians had significantly higher risks scores for compassion satisfaction, burnout and compassion fatigue in comparison with other healthcare providers. A significantly negative relationship was found between work experience under 10 years and burnout. Musculoskeletal symptoms were related with compassion satisfaction cut scores of high risk. Table-2 shows comparison of between high and low risk of ProQOL R-IV Subscales values and demographics, occupational variables.

MAF total scores were found to be significantly higher in young healthcare providers and in the physicians. Presence of musculoskeletal problems and duration of health care experience were found to be significantly related with MAF total score. BDI mean scores were found to be significantly higher in participants under 35 years of age, in participants with smoking history, with <10 years of healthcare experience, and with musculoskeletal symptoms. Table-3 shows the comparison of MAF and Beck Depression Inventory.

Discussion

In this study, we aimed to investigate the physical and mental health related conditions in healthcare professionals by using the ProQOL R-IV. Although our healthcare providers had burnout levels lower than the average levels, it was seen that compassion satisfaction was lower and compassion fatigue was higher than the average levels. In our hospital, 45.5% of our healthcare providers suffered from high risk scores for compassion satisfaction, 21.5% for burnout and 29.7% for compassion fatigue, similar to another study which reported high rates of risk for compassion fatigue, burnout, and low rates of compassion satisfaction among healthcare providers (11). It was also seen that, especially physicians suffered from significantly lower levels of compassion satisfaction and had higher risk scores for compassion fatigue and burnout when compared with other health workers. Compassion fatigue, burnout and compassion satisfaction have significant impacts on healthcare professionals well-being and hence on the quality of patient care given. Studies suggest that there are several factors contributing to these problems including age, gender, culture and ethnicity, training, personnel ideology and environmental factors (12). In our study, no significant relationship was found between the age and the compassion satisfaction, burnout, and compassion fatigue of ProQOL subscales. Physicians had significantly higher risk scores for compassion satisfaction, burnout and compassion fatigue in comparison to other healthcare providers. Male gender,

shorter duration of work experience, and the presence of musculoskeletal disorders were found to be significantly related with poor ProQOL in our study.

Table-2. Comparison Between High and Low Risk ProQOL R-IV Subscales Values and Demographics, Occupational Variables (n=209).

Variables	Compassion satisfaction			Burnout			Compassion fatigue		
	High risk n (%)	Low risk n (%)	p	High risk n (%)	Low risk n (%)	p	High risk n (%)	Low risk n (%)	p
Age (years)									
19-35	51 (47)	58 (53)	0.686	29 (73)	80 (27)	0.062	34 (31)	75 (69)	0.614
36-55	44 (44)	56 (56)		16 (16)	84 (84)		28 (28)	72 (72)	
Gender									
Male	34 (53)	30 (47)	0.139	22 (34)	42 (66)	0.003*	27 (42)	37 (58)	0.008*
Female	61 (42)	84 (58)		23 (16)	122 (84)		35 (24)	110 (76)	
Occupation									
Physicians	61 (52)	57 (48)	0.039*	36 (30)	82 (70)	0.001*	43 (36)	75 (64)	0.015*
Nurses and others	34 (37)	57 (63)		9 (10)	82 (90)		19 (21)	72 (79)	
Working department									
Medical clinics	62 (48)	67 (52)	0.336	31 (24)	98 (76)	0.264	43 (33)	86 (67)	0.140
Surgical clinics	33 (41)	47 (59)		14 (17)	66 (83)		19 (24)	61 (76)	
Duration of work experience									
1-10 years	54 (49)	55 (51)	0.215	30 (27)	79 (73)	0.028*	38 (35)	71 (65)	0.086
11-38 years	41 (41)	59 (59)		15 (15)	85 (85)		24 (24)	76 (76)	
Musculoskeletal symptoms									
Yes	85 (49)	90 (51)	0.040*	40 (23)	135 (77)	0.290	54 (31)	121 (69)	0.392
No	10 (29)	24 (71)		5 (15)	29 (85)		8 (24)	26 (77)	

*Statistically significant

Table-3. Comparison of MAF and Beck Depression Inventory in Healthcare Providers.

Variables (n=220)	MAF Total		Beck Depression Inventory	
	median±SD (min-max)	p	median ±SD (min-max)	p
Age (years)				
19-35	30.9±10.0 (0-46)	0.028*	9.0±7.6 (0-27)	0.004*
36-55	27.1± 10.7 (2.2-48.7)		6.0±7.8 (0-41)	
Gender				
Male	30.3±11.3 (2.2-48.7)	0.686	7±8.2 (0-41)	0.365
Female	29.6±10.2 (0-48.1)		7±7.7 (0-30)	
Occupation				
Physicians	31.6±10.7 (0-48.7)	0.003*	7±8 (0-41)	0.942
Nurses and others	25.4±10.0 (0-48.1)		7±7.8 (0-30)	
Working department				
Medical clinics	29.3±10.9 (0-48.7)	0.701	8±7.4 (0-30)	0.248
Surgical clinics	30.0±9.7 (2.2-44)		6±8.5 (0-41)	
Duration of work experience				
1-10 years	30.9±10.3 (0-48.1)	0.001*	9±8.1 (0-41)	0.001*
11-38 years	26.5±10.2 (0-48.7)		5±7.1 (0-37)	
Smoking history				
Present	30.0±10.5 (6.5-48.1)	0.772	12±8.9 (0-41)	0.002*
Absent	29.2±10.5 (0-48.7)		6±7.3 (0-30)	
Musculoskeletal symptoms				
Yes	30.0±9.4 (0-48.7)	0.002*	8±8.1(0-41)	0.009*
No	21.5±11.1 (0-43.1)		5±6.1(0-21)	

*Statistically significant

Additionally, we investigated the depression status in our study population with BDI, and observed that 18.2% of our participants suffered from depression. The presence of MSD, young age (<35 years), shorter duration of work experience and smoking history were found to be significantly associated with depression in healthcare providers. In a previous study it was reported that healthcare professionals, including physicians and nurses, had higher risks for depressive disorders than the general population (13). Similarly, it was also suggested in another study that mental health status is poor among healthcare professionals (14).

It was previously reported that being a healthcare worker comprises high risk for MSD (15-17). Researchers determined that back pain and lower limb pain occur frequently in healthcare workers (15,18). In the current study, 82.8% of healthcare professionals reported MSD in at least one part of their bodies. Myalgia was seen in 26.4% (58), low back pain in 24.1% (53), neck pain in 20.9% (46), and leg pain in 11.4% (25) of participants.

Most likely, biomechanical risk factors combined with psychosocial stress contribute to the development and progression of MSD. Our study suggests that MSDs are among the most common problems in healthcare professionals and they certainly will have negative impacts on quality of lives of the sufferers, especially on the compassion satisfaction. Therefore, it is of particular importance to predetermine the risk factors for MSD and to take preventive measures in healthcare professionals. We assume that ergonomic work environment should be provided and regular exercises/sports activities may be conducted in healthcare professionals to reduce MSD and increase the quality of life.

We also aimed to determine the work-related fatigue among the healthcare providers. The MAF total score was found as 27.98±10.5 (0-48.7). MAF total scores were found to be significantly higher in young healthcare providers and in physicians. Presence of musculoskeletal problems and shorter duration of healthcare experience were found to be significantly correlated with MAF total score.

Similarly, it was also reported that young physicians encounter a large amount of work related stress and fatigue which has unfavorable effects on their quality of life and satisfaction of patient (19-22)

There are few limitations of our study. Major limitation of all, our study group is relatively small and includes caregivers of only one hospital. Studies which will be conducted others hospital on larger group of subjects will yield more accurate results.

Conclusion

Being a healthcare provider, especially a physician, constitutes a high risk factor for poor QoL. Young age, shorter duration of work experience, and existence of musculoskeletal problems comprises important risks for depression and self-reported fatigue among healthcare providers. We recommend that an ergonomic work environment should be provided and in-service training, social or sports activities may be conducted in healthcare professionals to reduce regional pain, stress, depression and increase QoL in health care providers.

Conflict of Interest

There is no conflict of interest.

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