

# OCCUPATIONAL PHYSICIANS AND JOB SATISFACTION IN ANKARA

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## ABSTRACT

**Objective:** Aim of this study was to evaluate working conditions and job satisfaction of occupational physicians in Ankara.

**Material and Method:** The cross-sectional type of study was conducted on 258 actively working occupational physicians in Ankara. A questionnaire was used to gather data in the study. For statistical analysis, descriptive findings were presented as numbers, percentages for categorical variables, and as mean  $\pm$  standard deviation and median (maximum, minimum) for continuous variables. In all analysis statistical significance level was accepted as  $p < 0.05$ .

**Results:** Among the occupational physicians who enrolled the study, 83.7% were male; 45.7% were between 50-59 years old and 22.9% were between 40-49 years old; 89.9% were married; and 74.0% were general practitioners. 10.9% of the occupational physicians were working full-time in a workplace, 68.2% were a member of Joint Health and Safety Unit, 14.0% were working freelance and 7.0% were working at after-hours. 82.6% of occupational physicians stated that receiving their payment from their employers had influence on workplace health services;

and as a reason of this influence 86.3% stated employer was the boss of occupational physician, 69.4% stated occupational physician did not want to come into conflict with the employer. 69.2% of the occupational physicians stated that most of their time at workplace was devoted to clinical examination at the start of employment, 40.4% stated most of their time was devoted to on-demand clinical examinations. There was a weak positive association between monthly salary as occupational physician and internal and general satisfaction, and there was moderate positive association between monthly salary and external satisfaction ( $p < 0.05$ ).

**Conclusion:** The study shows that occupational physicians to receive payments from their employers appears as an important problem in terms of workplace health services. It is recommended that the salaries are reevaluated. Most of occupational physicians' time is devoted to clinical examination at start of an employment and on-demand clinical examinations. It is recommended that time devoted to each worker and the time devoted to preventive health services is increased.

**Keywords:** Occupational health physician, occupational health, job satisfaction. Nobel Med 2018; 14(1): 14-22

## ANKARA'DA İŞYERİ HEKİMLERİ VE İŞ DOYUMU

### ÖZET

**Amaç:** Araştırmada Ankara'daki işyeri hekimlerinin çalışma koşulları ve iş doyumlarının değerlendirilmesi amaçlanmıştır.

**Materyal ve Metot:** Çalışma kesitsel tipte bir araştırmadır. Araştırma Ankara'da aktif olarak çalışan 258 işyeri hekimi ile yürütülmüştür. Araştırmada veri kaynağı olarak anket formu kullanılmıştır. İstatistiksel analizde, tanımlayıcı bulgular kısmında kategorik değişkenler sayı, yüzde ve sürekli değişkenler ise ortalama  $\pm$  standart sapma ve ortanca (en büyük, en küçük değer) ile sunulmuştur. Tüm analizlerde istatistiksel olarak anlamlılık düzeyi  $p < 0,05$  olarak alınmıştır.

**Bulgular:** Araştırmaya katılan işyeri hekimlerinin % 83,7'si erkek; % 45,7'si 50-59 yaş, % 22,9'u 40-49 yaş arasında; % 89,9'u evli ve % 74,0'ü pratisyen doktordur. İşyeri hekimlerinin % 10,9'u tam zamanlı olarak bir işyerinde, % 68,2'si Ortak

Sağlık ve Güvenlik Birimine bağlı olarak, % 14,0'ü kendi başına serbest olarak ve % 7,0'si mesai sonrası çalışmaktadır. İşyeri hekimlerinin % 82,6'sı ücretlerini işverenden almalarının İş Sağlığı hizmetlerini olumsuz etkilediğini belirtmiştir. İşyeri hekimlerinin % 69,2'si işyerinde geçirilen sürenin çoğunu işe giriş muayenelerinde, % 40,4'ünü poliklinik yaparak geçirdiğini belirtmiştir. İşyeri hekimi olarak aylık kazanç ile içsel ve genel doyum arasında pozitif yönlü düşük dereceli ilişki, dışsal doyum arasında ise pozitif yönlü orta dereceli ilişki saptanmıştır ( $p < 0,05$ ).

**Sonuç:** Araştırma sonucunda işyeri hekimlerinin ücretlerini işverenden almasının İş Sağlığı hizmetleri açısından önemli bir sorun olarak görülmektedir. Ücretlerin yeniden değerlendirilmesi önerilmektedir. İşyeri hekimlerinin zamanının çoğunu işe giriş muayenesi ve poliklinik yaparak geçirdiği görülmektedir. Çalışan başına düşen sürenin artırılarak koruyucu sağlık hizmetlerine kalan zamanın artırılması önerilmektedir.

**Anahtar kelimeler:** İşyeri hekimi, iş sağlığı, iş doyum. Nobel Med 2018; 14(1): 14-22

### INTRODUCTION

Occupational physicians play an important role in the prevention and development of individuals' health throughout their lives and in decreasing the incidence of diseases and injuries. Occupational physician is a professional consultant and a part of top management of businesses that may help in planning and reconstruction of study processes regarding health and security, legal necessities, good work and human resources. Occupational physician makes diagnosis and gives advice on the evaluation of the suitability of the work, development of working ability and prevention of work-related negative physical and psychological effects on health in case of disease or injury.<sup>1</sup>

Occupational physician deals with the effect of work on health and vice versa. Employees are evaluated medically by occupational physician when they turn back to work after disease, they give advice to employee and manager on working capacity and suitable placement and then check rehabilitation and progression. Close relationship between hospital physician, family physician and occupational physician may facilitate returning back to work and ensure returning back to suitable work.<sup>2</sup>

Occupational accidents mostly occur in construction, manufacturing, agriculture, transportation, small and medium sized enterprises. Occupational accidents are important public health problem. Occupational accident-related total load on employees and community is highly big and too hard to predict because of many aspects: Public health, occupational medicine, social security coverage and economies institutions, policymakers and their various methodological assumptions. It is estimated that occupational accident-related comprehensive cost was 3-4% of gross domestic product in some industrialised countries. A conservative American estimate suggests 6 million occupational accidents, 6 thousand deaths and 140 billion dollar cost annually.<sup>3</sup> Work-related diseases bring over 100 billion dollar cost to National Health Services (NHS) annually in England.<sup>4</sup>

Job satisfaction is a complex and versatile concept. It may mean different things to everyone. Job satisfaction is generally related to motivation, while the nature of this relationship is unclear. Job satisfaction represents a combination of negative or positive feelings of employees for their job. Job satisfaction means to what extent expectations and actual rewards are paired. Job satisfaction is

**Table 1.** Distribution of descriptive characteristics of occupational physicians.

Characteristics	Number	(%)*
<b>Gender (n=258)</b>		
Male	216	83.7
Female	42	16.3
<b>Age (n=258)</b>		
39 years and under	34	13.2
40-49 years	59	22.9
50-59 years	118	45.7
60 years and over	47	18.2
<b>Marital status (n=258)</b>		
Married	232	89.9
Single	26	10.1
<b>Professional positions (n=258)</b>		
General practitioner	191	74.0
Specialist Physician	67	26.0
<b>Properties regarding occupational physicians (n=258) #</b>		
Occupational medicine certificate	258	100.0
Master's degree in occupational health	9	3.4
<b>First institution obtained occupational medicine certificate (n=258)</b>		
Turkish Medical Association (TMA)	148	57.4
Ministry of Labor and Social Security (MOLSS)	110	42.6
<b>Employment status as occupational physicians (n=258)</b>		
Full time Occupational Physicians	28	10.9
Working under Joint Health and Safety Committee	176	68.2
Self-employed	36	14.0
Working after-hours as a second job	18	7.0

\*: Column percentage, #: more than one answers were given, percentages were calculated based on the number of responders.

closely related to behaviours of the individual at worksite. Job satisfaction is the sense of success of employees about their job. It is usually perceived as related to personal well being and productivity. Job satisfaction is the sum of feelings and beliefs of individuals for their job.<sup>5</sup>

There are many important problems about occupational health services, occupational accidents and occupational diseases worldwide, while there is limited number of studies on occupational physicians who have important roles in solving these problems.

The aim of this study was to evaluate practices and job satisfaction of occupational physicians working in Ankara.

## MATERIAL AND METHOD

The study is a cross-sectional type of study. The study was conducted in Ankara on occupational physicians who actively worked in the first half of the year 2015. Study population consisted of 783 individuals and it was aimed to reach 258 individuals with estimation of 50% unknown frequency, 5% deviation and 95% confidence interval. All of 258 individuals were reached (100% coverage). Systematic sampling method was used as sampling method. "Working Conditions and Job Satisfaction of Occupational Physicians" questionnaire form was used as the data source of the study. The questionnaire is composed of 6 parts and 85 questions. Fifth part of the questionnaire includes Minnesota Job Satisfaction Scale (MJSS) containing 20 questions. MJSS was developed by Weiss et al in 1967.<sup>6</sup> In 1985, Baycan translated the scale into Turkish and conducted validity and reliability studies.<sup>7</sup> It is a 5-point Likert type scale and each question is scored between 1 and 5 points. "Extremely dissatisfied"; 1 point, "Dissatisfied"; 2 points, "Undecided"; 3 points, "Satisfied"; 4 points, "Extremely satisfied"; 5 points was given. There was no reverse question in the scale. It is examined in three dimensions: Intrinsic satisfaction, extrinsic satisfaction and general satisfaction. Intrinsic dimension has 12 items (1-4, 7-11, 15, 16, 20), extrinsic dimension has 8 items (5, 6, 12-14, 17-19) and 20 items (1-20) are present in general satisfaction. Score of each dimension is calculated by dividing with the number of items. As percentage value; 0-25% reflects low job satisfaction, 26-74% represents medium level job satisfaction and values above 75% are interpreted as high job satisfaction.<sup>6</sup> Ethics Committee Approval of the study (with date:13.08.2014, number:644) was obtained. Questionnaire forms were delivered to occupational physicians by the investigator during visit to their workplaces, investigator periodically visited workplaces and collected filled up questionnaires back. Application time of this questionnaire is 15-20 minutes.

Study data were evaluated by SPSS 22.0. In descriptive findings of statistical analysis, categorical variables were presented as number and percentage, while continuous variables were presented as mean  $\pm$  standard deviation and median (mimimum, maximum). In the comparison of variables specified by measurement, compliance of the data to normal distribution was evaluated by Kolmogorov-Smirnov test and since it was found to be non normally distributed, Mann-Whitney

U and Kruskal-Wallis tests were used. Bonferroni Corrected Mann-Whitney U Test was used to find out the origin of the difference in more than two independent groups. Spearman Correlation Test was applied in determining the relationship between intrinsic satisfaction, extrinsic satisfaction, general satisfaction and age, work duration as occupational physician, monthly working hours as occupational physician, monthly income as occupational physician and the number of employees to whom service is provided as occupational physician. In all analysis statistical significance level was accepted as  $p < 0.05$ .

## RESULTS

Among occupational physicians participated in the study (n=258), 83.7% were males, 45.7% were aged 50-59 years, 22.9% were aged 40-49 years, 89.9% were married and 74.0% were general practitioners. All of occupational physicians had Certificate for Occupational Medicine and 3.4% had master's degree in occupational health; 57.4% had obtained Certificate for Occupational Medicine from Turkish Medical Association (TMA) and 42.6% had obtained it from Ministry of Labor and Social Security (MOLSS). 10.9% of occupational physicians were full time employees, 68.2% were working under Joint Health and Safety Committee (JHSC), 14% were self-employed and 7.0% of them were working after-hours (Table 1).

The mean age of occupational physicians was  $51.5 \pm 9.06$  years (n=258) and median age was 54 (min: 29–max: 73) years; the mean duration of work as occupational physician was  $7.77 \pm 7.72$  years and median duration was 3.2 (min: 0.25–max: 26) years; the mean and median duration of work as physician were  $25.4 \pm 9.18$  years and 27 (min: 2–max: 47) years, respectively; the mean monthly working hours as occupational physician was  $143.4 \pm 59.8$  hours and median was 160 (min: 20–max: 220) hours; the mean value for monthly income as occupational physician was  $4990 \pm 1918$  TL of June 2015 and median income was 5000 (min: 1000–max: 9500) TL; the mean number of employees to whom service is provided as occupational physician was  $603.7 \pm 370.1$  and the median number was found to be 540 (min: 75–max: 2000) workers.

Of the occupational physicians who were full-time employees, 78.6% were working in a hazardous and 21.4% were working in a very hazardous occupation, while 92.6% of the occupational physicians who were not full-time employees were

**Table 2.** Distribution of some characteristics regarding workplace and services provided by occupational physicians.

Characteristics	Number	(%)*
<b>OHS Unit is Suitable in the Workplace (n=258)</b>		
Unsuitable	50	19.4
Suitable	208	80.6
<b>Workers Can Reach You Easily (n=258)</b>		
Not reach	51	19.8
Reach	207	80.2
<b>Performing the Recruitment Examination (n=257)</b>		
Not performing	3	1.2
Performing	254	98.8
<b>Considering the Recruitment Examination (n=254)</b>		
Not considered	53	20.9
Considered	201	79.1
<b>Performing Periodic Examination (n=258)</b>		
Not performing	1	0.4
Performing	257	99.6
<b>Giving Occupational Health and Safety (OHS) Training (n=258)</b>		
Not giving	26	10.1
Giving	232	89.9
<b>Participating in Risk Evaluation Studies (n=256)</b>		
Not participating	33	12.9
Participating	223	87.1
<b>Monitoring and Assessment of General Hygiene Conditions of Workplace (n=258)</b>		
Not assessing	47	18.2
Assessing	211	81.8
<b>Regular Meeting of Committee of Occupational Health and Safety (n=229)**</b>		
Not meeting	34	14.8
Meeting	195	85.2
<b>Sufficient Working Time of Occupational Physician per Employee (n=256)</b>		
Insufficient	163	63.7
Sufficient	93	36.3

\*: Column percentage, \*\*: in the workplaces including 50 and more workers

working in a hazardous occupation, 82.2% of them were working in a very hazardous occupation and 51.7% were working in a less hazardous occupation. 78.3% of occupational physicians were working only in Ankara and 21.7% of them were working in several provinces.

Eighty point one % of occupational physicians were working at a place having a suitable Occupational Health and Safety (OHS) Unit; 80.2% of them stated

**Table 3.** Distribution of some characteristics regarding payment, prescribing, attending the meetings and places followed by occupational physicians.

Characteristics	Number	(%)*
<b>Affect on Occupational Health Services about the fact that occupational physicians take their wages from employer (n=258)</b>		
Not affects	45	17.4
Affects (negatively)	213	82.6
<b>Reasons of effect on Occupational Health Services about the fact that occupational physicians take their wages from employer (n=213) #</b>		
The fact that employer is the boss of occupational physician	184	86.3
The fact that occupational physician does not want to conflict with the employer	148	69.4
The fact that occupational physicians have not job security	126	59.1
<b>Do you think that occupational physician should prescribe? (n=258)</b>		
Should not prescribe	87	33.7
Should write prescribe	171	66.3
<b>Distribution of time spent in the workplace (n=257) #</b>		
Recruitment examinations	178	69.2
Outpatient services	104	40.4
Periodic examinations	102	39.6
Employee training	52	20.2
<b>Regular attendance to congress, conference, seminars relating the Occupational Health and Safety (n=244)</b>		
Not attending	179	73.4
Attending	65	26.6
<b>Workplaces followed related to Occupational Health and Safety (n=254) #</b>		
MOLSS (Ministry of Labor and Social Security)	172	67.7
Custom websites	154	60.6
Official Gazette	140	55.1
Scientific journals	67	26.3
Community / associations	53	20.8
Don't follow	15	5.9

\*: Column percentage, #: more than one answers were given, percentages were calculated based on the number of responders

**Table 4.** Distribution of Minnesota job satisfaction scale scores of occupational physicians

	Median (min, max)	Mean ± SD
<b>Intrinsic satisfaction score (n=258)</b>	3.6 (2.4 - 4.8)	3.6 (2.4 - 4.8)
<b>Extrinsic satisfaction score (n=258)</b>	3.3 (1.3 - 5)	3.3 (1.3 - 5)
<b>General satisfaction score (n=258)</b>	3.5 (2 - 4.6)	3.5 (2 - 4.6)

that employees could easily reach them; 98.8% were performing job-entry examination and 79.1% of them stated that job-entry examination was

considered in job placement; 99.6% were performing periodic examination; 89.9% were giving OHS training; 87.1% were participating in risk evaluation studies; 81.8% were assessing general hygiene requirements of workplace; 85.2% stated that OHS Committee was regularly meeting and 36.3% stated that allocated time by occupational physicians for per employee was sufficient (Table 2).

Eighty-two point six % of occupational physicians stated that getting paid by the employer affects Occupational Health services negatively; 86.3% of them stated that the reason for this was employer being the boss of occupational physician, while 69.4% stated that occupational physicians did not want to come into conflict with the employer. 66.3% of the participants stated that occupational physicians should write prescription; initial examinations and policlinic services were the most time consuming activities for 69.2% and 40.4% of the physicians, respectively; 26.6% of them were regularly attending the conferences; percentages of the physicians who were following MOLSS, custom websites and official gazette were 67.7%, 60.6% and 55.1%, respectively (Table 3).

Sixty-seven point one % of occupational physicians stated that an occupational accident has occurred in the course of their work as an occupational physician; 57.3% mentioned that an occupational accident has occurred at their workplaces in the last year; 90.4% were studying on the causes and solution suggestions when an occupational accident occurs; 55.0% were referring the employees to health care providers with the pre-diagnosis of occupational disease; 19.9% were making the diagnosis of occupational diseases; 26.6% referred the employees in the last year with the pre-diagnosis of occupational disease and 4.8% made the diagnosis of occupational diseases in the last year.

For 27.1% of occupational physicians, certificate training given for Occupational Medicine was satisfactory in general, 30.1% stated that theoretical part was satisfactory, while practical part was satisfactory for only 14.0%.

For intrinsic satisfaction of occupational physicians, median and mean scores obtained by MJSS test were 3.6 (min:2.4–max:4.8) and 3.5±0.4, respectively; median and mean scores for extrinsic satisfaction were 3.3 (min: 1.3–max: 5) and 3.3±0.6,

respectively; general satisfaction median score was 3.5 (min: 2–max: 4.6) and mean score was found to be  $3.4 \pm 0.4$  (Table 4, Figure).

Median score of occupational physicians for intrinsic satisfaction obtained by MJSS test was 3.8 (2.5–4.5) for full-time employees, 3.6 (2.4–4.8) for the ones working under JHSC, 3.5 (3–4) for self-employed physicians and 3.3 (2.7–3.6) for the ones working after official job hours ( $p < 0.05$ ). Median intrinsic satisfaction score was 3.6 (2.4–4.8) for the physicians whose workplace had a suitable OHS unit and 3.3 (2.5–3.9) for the others. Intrinsic satisfaction score was found to be higher for the physicians whose workplace had a suitable OHS unit ( $p < 0.05$ ) (Table 5).

Median extrinsic satisfaction scores of males and females obtained by MJSS test were 3.2 (1.3–5) and 3.7 (1.7–4.7), respectively. Extrinsic satisfaction score was higher in female participants ( $p < 0.05$ ). Median extrinsic satisfaction score was found to be 3.3 (1.3–5) for the physicians whose workplace had a suitable OHS unit and 3 (2.1–3.8) for the others. Extrinsic satisfaction score of the physicians whose workplace had a suitable OHS unit was found to be higher ( $p < 0.05$ ). Median score of occupational physicians for extrinsic satisfaction was 3.5 (2.2–4.2) for full-time employees, 3.3 (1.3–5) for the ones working under JHSC, 3.3 (2.7–4.1) for self-employed physicians and 3 (2.3–3.5) for the ones working after official job hours. Extrinsic satisfaction score of the physicians working after-hours was found to be lower ( $p < 0.05$ ) (Table 5).

Median score of male subjects for general satisfaction calculated via MJSS test was 3.5 (2–4.5), while it was found to be 3.7 (2.1–4.6) in females. General satisfaction score of females was higher ( $p < 0.05$ ). Median score of occupational physicians for general satisfaction was 3.7 (2.4–4.4) for full-time employees, 3.5 (2–4.6) for the ones working under JHSC, 3.3 (2.9–4.0) for self-employed physicians and 3.1 (2.6–3.5) for the ones working after official job hours. General satisfaction score was found to be lower in the physicians working after-hours ( $p < 0.05$ ). Median score for general satisfaction was 3.5 (2–4.6) among the participants who were working at a workplace with a suitable OHS unit, while it was 3.2 (2.4–3.9) for the others. General satisfaction score of the physicians who had a suitable OHS unit at their workplaces was detected to be higher ( $p < 0.05$ ) (Table 5).

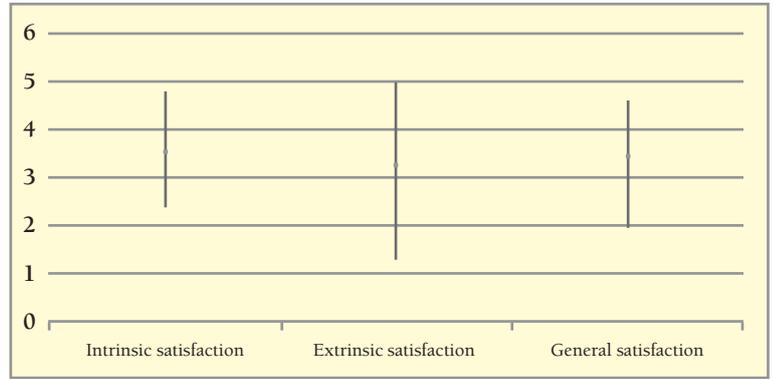


Figure. Distribution of Minnesota job satisfaction scale scores of occupational physicians

**Table 5.** Distribution of scores that occupational physicians take from job satisfaction sub-groups according to some defining characteristics.

Socio-Demographic Characteristics	n	Intrinsic satisfaction	Extrinsic satisfaction	General satisfaction
		median (min, max)	median (min, max)	median (min, max)
<b>Gender</b>				
Male	216	3.5 (2.4 - 4.8)	3.2 (1.3 - 5)	3.5 (2 - 4.5)
Female	42	3.7 (2.4 - 4.6)	3.7 (1.7 - 4.7)	3.7 (2.1 - 4.6)
		$p=0.144^*$	$p=0.002^*$	$p=0.010^*$
<b>Marital status</b>				
Married	232	3.6 (2.4 - 4.6)	3.3 (1.3 - 5)	3.5 (2 - 4.6)
Single	26	3.7 (2.5 - 4.8)	3.3 (2.2 - 4.3)	3.5 (2.4 - 4.5)
		$p=0.348^*$	$p=0.824^*$	$p=0.634^*$
<b>Professional positions</b>				
General practitioner	191	3.6 (2.4 - 4.8)	3.3 (1.3 - 5)	3.5 (2 - 4.6)
Specialist physician	67	3.5 (2.5 - 4.6)	3.2 (2 - 4)	3.2 (2.4 - 4.6)
		$p=0.108^*$	$p=0.249^*$	$p=0.113^*$
<b>Employment status as occupational physicians</b>				
Full time employment	28	3.8 (2.5 - 4.5)	3.5 (2.2 - 4.2)	3.7 (2.4 - 4.4)
Working under Joint Health and Safety Committee	176	3.6 (2.4 - 4.8)	3.3 (1.3 - 5)	3.5 (2 - 4.6)
Self-employed	36	3.5 (3 - 4)	3.3 (2.7 - 4.1)	3.3 (2.9 - 4.0)
Working after-hours (second job)	18	3.3 (2.7 - 3.6)	3 (2.3 - 3.5)	3.1 (2.6 - 3.5)
		$p=0.03^\#$	$p=0.002^\#$	$p=0.01^\#$
<b>Place where occupational medicine is executed</b>				
Ankara	202	3.6 (2.4 - 4.6)	3.3 (1.7 - 5)	3.5 (2.1 - 4.6)
Several provinces	56	3.6 (2.4 - 4.8)	3.3 (1.3 - 4.7)	3.5 (2 - 4.6)
		$p=0.227^*$	$p=0.488^*$	$p=0.528^*$
<b>The fact that OHS unit is suitable in the workplace</b>				
Unsuitable	50	3.3 (2.5 - 3.9)	3 (2.1 - 3.8)	3.2 (2.4 - 3.9)
Suitable	208	3.6 (2.4 - 4.8)	3.3 (1.3 - 5)	3.5 (2 - 4.6)
		$p<0.001^*$	$p<0.001^*$	$p<0.001^*$

\*: Mann-Whitney U test was applied, #: Kruskal-Wallis test and Mann-Whitney U test with Bonferroni Correction were applied  
OHS: occupational health and safety

**Table 6.** Relationship of ages of occupational physicians and some of their characteristics related to occupational medicine and the job satisfaction sub-groups

	Intrinsic satisfaction		Extrinsic satisfaction		General satisfaction	
	rho	p	rho	p	rho	p
Age (n=258)	-0.006	0.919	0.047	0.448	0.026	0.677
Working time as occupational physicians (n=252)	0.165	0.009	0.079	0.209	0.106	0.093
Monthly working time as occupational physicians (n=257)	0.100	0.109	0.091	0.147	0.120	0.054
Monthly income as occupational physician (n=200)	0.187	0.008	0.251	<0.001	0.245	<0.001
Number of employees to whom service is provided as occupational physician (n=229)	0.148	0.025	0.126	0.056	0.164	0.013

Spearman correlation test was applied

No relationship was detected between age, monthly working time as an occupational physician and intrinsic, extrinsic and general satisfaction scores ( $p>0.05$ ). There was a positive but weak relationship between working time as occupational physician and intrinsic satisfaction scores ( $p<0.05$ ), while such a relationship was not present for extrinsic and general satisfaction scores ( $p>0.05$ ). A positive but weak relationship was detected between intrinsic and general satisfaction and monthly income earned as occupational physician, while a positive and moderate relationship was present for extrinsic satisfaction scores ( $p<0.05$ ). There was a positive and weak correlation between intrinsic and general satisfaction scores and the number of employees to whom service is provided as occupational physician ( $p<0.05$ ), while such a correlation was not present for extrinsic satisfaction scores ( $p>0.05$ ) (Table 6).

## DISCUSSION

Nearly absence of studies on practices and job satisfaction of occupational physicians created difficulty in discussion part. Findings on practices of occupational physicians were evaluated between each other, while job satisfaction scores were evaluated with the studies conducted on other physicians.

Eleven % of occupational physicians were full time employees, 68% were working under JHSC, 14% were self-employed and 7 % of them were working

after-hours. Results of the study show that most of the physicians were working under JHSC. This might be due to the fact that the physicians might have preferred JHSC since occupational health services are multidisciplinary and employers prefer to provide these services from a single place.

Among occupational physicians, the mean value of the duration of work as a physician was 25.4 years, while it was 7.7 years for occupational physicians. The mean age of occupational physicians was detected as 51.5 years. Most of the physicians working as occupational physicians have preferred to work in occupational medicine field after retirement or working for a certain period until malpractice taking the advantage of, flexible working hours and relatively good income. As a result, the duration of work as an occupational physician was found to be much shorter than the duration of work as a physician.

Twenty-seven % of occupational physicians stated that training given for occupational medicine certificate was sufficient in general. This low ratio may show the requirement for reviewing the training given for occupational medicine certificate.

Eighty-two % of occupational physicians stated that getting paid by the employer affects negatively Occupational Health services. Getting paid by the employer affects occupational physicians to duly perform their duties. This is because the fact that occupational physicians do not want to come into conflict with the employer due to lack of job security, they might otherwise have been lost their job. Since getting paid from a common pool may eliminate job security problem, this would make occupational physicians more free in decision making and their medical interventions, which is thought to positively affect occupational health services.

Two thirds of occupational physicians stated that they should make prescription, while the remaining one third thought that they should not. Since outpatient services were the most time consuming activity for most of the physicians, they might have thought that they should make prescription. Occupational physicians who thought that their main responsibility was preventive health services might have stated that they should not make prescription; the reason they suggested for this may be the fact that outpatient services and making prescription reduce the time to spend for preventive health services.

The most time consuming activities for occupational physicians were recruitment examinations, outpatient services, periodical examinations and employee training, respectively. Our study shows that occupational physicians spend most of their time on outpatient clinic and making prescription. It is believed that this may contribute employee training, taking and following preventive precautions at workplace.

Among occupational physicians enrolled in this study, the mean scores obtained by MJSS test for intrinsic, extrinsic and general satisfaction were  $3.5\pm 0.4$ ,  $3.3\pm 0.6$  and  $3.4\pm 0.4$ , respectively. In a Japanese study conducted between the 2004-2007, the mean score of the physicians for job satisfaction was found to be 3.4.<sup>8</sup> In a Chinese study conducted in 2012 on Community Health workers, intrinsic, extrinsic and general satisfaction of health workers was found to be at a moderate level. Intrinsic satisfaction had the highest score, while general and extrinsic satisfaction had moderate and lowest scores, respectively.<sup>9</sup> Median value of job satisfaction score of the physicians was found to be high in a study from England.<sup>10</sup> In a study conducted in 2008 on primary health care workers, general, intrinsic and extrinsic satisfaction of the physicians were found to be at a moderate level.<sup>11</sup> In a study conducted in Malatya in 2013, family physicians' intrinsic satisfaction score was  $3.4\pm 0.6$ , extrinsic satisfaction was  $3.1\pm 0.7$  and general satisfaction score by MJSS test was found to be  $3.3\pm 0.6$ .<sup>12</sup> 64% of primary health care workers were very satisfied with their job.<sup>13</sup> A moderate-high level job satisfaction level was reported in 64.2% of the physicians in a study conducted in 2001 in Istanbul.<sup>14</sup> In most of the studies, job satisfaction of the physicians has been found to be at a moderate level and intrinsic satisfaction has been detected to be higher.

Extrinsic and general satisfaction scores of females physicians were higher. In some of the studies, no relationship was detected between gender and job satisfaction.<sup>11,14-21</sup> In the studies conducted on physicians in England, job satisfaction of females was found to be higher.<sup>10,22</sup> On the other hand, job satisfaction of males physicians was higher in some studies.<sup>23,24</sup>

Intrinsic, extrinsic and general satisfaction scores were found to be higher among occupational

physicians who were on full time employment. This might have caused by working in a more corporate workplace and more satisfactory earnings.

A positive correlation was detected between the duration of work as occupational physician and intrinsic satisfaction. Job satisfaction was higher among the physicians in whom the duration of work was longer.<sup>16</sup> In a study conducted between 2006-2007, job satisfaction was found to be higher among health workers in whom professional experience was less than 2 years.<sup>24</sup> Another study from Lahore conducted in 2014 detected no relationship between job satisfaction and duration of work among physicians.<sup>17</sup> In some Turkish studies, no relationship was detected between work duration and job satisfaction.<sup>11,12,14,19,20,23,25,26</sup> On the other hand, job satisfaction increased with longtime work duration in some studies.<sup>27</sup> In an another paper, job satisfaction decreased with increasing duration of work.<sup>28</sup> The effect of work duration on job satisfaction varies among the institutions and countries.

A positive correlation was detected between intrinsic, extrinsic and general satisfaction and monthly income earned as occupational physician. In a Chinese study conducted in 2012, job satisfaction increased with growing monthly income.<sup>29</sup> Job satisfaction was higher among the subjects with moderate level of income in the study conducted in 2011 in Malatya.<sup>15</sup> It was found that job satisfaction was higher among the ones who were satisfied with their economic condition.<sup>12,24</sup> Studies indicate that sufficient income affects job satisfaction in a positive manner.

## CONCLUSION

The study shows that occupational physicians paid by their employers appears as an important problem in terms of Workplace Health services. It is recommended that the salaries are reevaluated. Most of occupational physicians' time is devoted to clinical examination at start of recruitment and on-demand clinical examinations. It is recommended that time devoted to each worker and the time devoted to preventive health services is increased on a montly basis.

\*The authors declare that there are no conflicts of interest.



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## REFERENCES

1. WorldHealthOrganization.(2000).Occupationalmedicine in Europe: Scope and Competencies.
2. MacDonald EB, Cochrane GM. The occupational physician's view. *Baillière's Clinical Rheumatology* 1987; 1: 623-644.
3. Porru S, Placidi D, Carta A, Alessio L. Prevention of injuries at work: The role of the occupational physician. *Int Arch Occup Environ Health* 2006; 79: 177-192.
4. Williams N, Wynn PA, Whitaker S. Undergraduate Occupational Medicine Tuition in UK Schools of Medicine. *Occupational medicine* 2011; 61: 152-156.
5. Aziri, B. Job Satisfaction: A literature review. *Management research and practice* 2011; 3: 77-86.
6. Weiss, DJ, Dawis RV, England GW, Lofquist LH. Manual for the Minnesota satisfaction questionnaire. *Minnesota studies in vocational rehabilitation*: xxii, 1967.
7. Baycan, A. An analysis of several aspects of job satisfaction between different occupational groups (Unpublished master's thesis). Boğaziçi University, İstanbul, 1985.
8. Ozaki MU, Bitō S, Matsumura S, et al. Physician job satisfaction and quality of care among hospital employed physicians in Japan. *J Gen Intern Med* 2009; 24: 387-392.
9. Li L, Zhang Z, Sun Z, et al. Relationships Between actual and desired workplace characteristics and job satisfaction for community health workers in China: A Cross-Sectional Study. *BMC Fam Pract* 2014; 15: 180.
10. Lambert T, Smith F, Goldacre M. GPs' job satisfaction: Doctors who choose general practice early or late. *Br J Gen Pract* 2013; 63: e726-733.
11. Tözün M, Çulhacı A, Ünsal A. The job satisfaction of physicians that working in primary health care institutions in family medicine system (Eskişehir). *TAF Prev Med Bull* 2008; 7: 377-384.
12. Tekin Ç, Bozkır Ç, Sazak Y, Özer A. The views of family physicians family healthcare personnel, who work in the city center of Malatya, on the family medicine practices, job satisfactions and effecting factors. *Firat Med J* 2014; 19: 135-139.
13. Behmann M, Schniemann G, Lingner H, et al. Job satisfaction among primary care physicians: Results of a survey. *Dtsch Arztebl Int* 2012; 109: 193-200.
14. Yıldız N, Yolsal N, Ay P, Kiyani A. Job satisfaction among the physicians of İstanbul Medical Faculty. *İstanbul Tıp Fak. Mecmuası* 2003; 66: 34-41.
15. Cagan O, Gunay O. The job satisfaction and burnout levels of primary care health workers in the province of Malatya in Turkey. *Pak J Med Sci* 2015; 31: 543-547.
16. Ozyurt A, Hayran O, Sur H. Predictors of burnout and job satisfaction among Turkish physicians. *Q J Med* 2006; 99: 161-169.
17. Atif K, Khan HU, Maqbool S. Job Satisfaction among doctors, a multi-faceted subject studied at a tertiary care hospital in Lahore. *Pak J Med Sci* 2015; 31: 610-614.
18. Gaszynska E, Rudnicki MS, Szatko F, Wiczorek A, Gaszynski T. Life satisfaction and work-related satisfaction among anesthesiologists in Poland. *The Scientific World Journal* 2014; 2014.
19. Kurçer MA. Job Satisfaction and Burnout Levels of physician Working Harran University Faculty of Medicine in Sanliurfa. *Journal of Harran University Medical Faculty* 2005; 2: 10-15.
20. Çelen Ü, Piyal B, Karaodul G, Demir M. Job Satisfaction of Health Care Workers of Ankara Oncology Training Hospital. *Hacettepe Sağlık İdaresi Dergisi* 2004; 7: 295-318.
21. Yavuzılmaz A, Topbaş M, Çan E, Çan G, Özgün Ş. Burnout syndrome, job satisfaction levels and related factors in central Trabzon province primary health center workers. *TAF Prev Med Bull* 2007; 6: 41-50.
22. Whalley D, Bojka C, Gravelle H, Sibbald B. GP Job Satisfaction in view of contract reform: A National Survey. *Br J Gen Pract* 2006; 56: 87-92.
23. Havle N, İlnem MC, Yener F, Gümüş H. Burn-Out syndrome, job satisfaction among psychiatrists working in İstanbul and their relationships with different variables. *Düşünen Adam* 2008; 21: 4-13.
24. Sehlen S, Vordermark D, Schäfer C, et al. Job stress and job satisfaction of physicians, radiographers, nurses and physicists working in radiotherapy: A multicenter analysis by the DEGRO quality of life work group. *Radiat Oncol* 2009; 4: 6.
25. Öztürk G, Cetin M, Yıldırım N, Türk YZ, Fedai T. Burnout and job satisfaction levels of physicians. *Anatol J Clin Investing* 2012; 6: 239-245.
26. Tatlı H, Kaya H, Halisdemir N. Assessment of job satisfaction of physicians working in hospitals in Bingöl city center. *İnönü Üniversitesi Tıp Fakültesi Dergisi* 2008; 15: 151-161.
27. Piyal B, Çelen Ü, Şahin N, Piyal B. Job satisfaction of health care workers of Ankara University Faculty of Medicine Hospital. *Ankara Üniversitesi Tıp Fakültesi Mecmuası* 2000; 53: 241-250.
28. Özaltın H, Kaya S, Demir C, Özer M. Determining the level of job satisfaction of physicians working at Turkish Military Forces. *Gulhane Med J* 2002; 44: 423-427.
29. Wu D, Wang Y, Lam KF, Hesketh T. Health system reforms, violence against doctors and job satisfaction in the medical profession: A cross-sectional survey in Zhejiang province, Eastern China. *BMJ Open* 2014; 4: e006431.