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Low Back Pain Among Turkish Drivers

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ÖZET

Çalışma koşulları nedeniyle profesyonel şoförler kronik hastalıklar için yüksek risk grubunda yer almaktadır. Bu çalışmanın amacı, şoförlerin yaşam tarzı, sosyodemografik özellikleri, sağlık durumu ve kişisel koruyucu ekipman kullanımı hakkında genel bilgi vermektir. Araştırma tipi kesitseldir. Düzce Şoförler Odasına kayıtlı 143 erkek şoför araştırma grubunu oluşturmuştur. Sosyodemografik özellikleri, sağlık durumu ve kişisel koruyucu ekipman kullanımını içeren bir anket formu doldurtulmuştur. Kilo ve boy ölçülmüştür. Çalışma grubunun yaş ortanca değeri 39.5 yıldı. Çalışma grubunun %53'ü kamyon kullanmaktaydı. Profesyonel şoförlük süresi medyan değeri 16 yıldı. Şoförlerin %69'u sigara ve %27.3'ü alkollü içecek içiyordu. Kendi bildirdikleri sağlık sorunlarının ilk beşi sırasıyla %41.8 bel ağrısı, %29.6 görme problemleri ve sırt ağrısı, %27.7 romatoid hastalıklar, %24.6 mide ağrısı ve %23.1 hemoroiddi. Çalışma grubunun %21'i düzenli egzersiz yaptığını bildirdi. Grubun ortanca BMI değeri 26.49 idi. Eldiven kullanma %34.5 ve güneş gözlüğü kullanma %23.2 idi. Sürücülerin sağlık sorunları üzerine katılımlı eğitim programı yapılmalıdır.
Anahtar Kelimeler: Şoförler; bel ağrısı; obezite; sigara; Türkiye.

Türk Şoförlerde Bel Ağrısı

ABSTRACT

The professional drivers placed in high risk group for chronic disease because of working conditions. The objective of this study is to provide general information about lifestyle and sociodemographic characteristics, health status and using personal protective equipment among drivers. The study design was cross-sectional. Subjects were 143 male drivers registrated Duzce Regional Drivers Association. A questionnaire form including sociodemographic characteristics, health status and using personal protective equipment was recorded. Weight and height were measured. Median age of the study group was 39.5 years. Fifty-three percent of study group have been use truck. A median year as professional drivers was 16. Sixty-nine percent of the drivers were smoker and 27.3% of the drivers were alcohol user. First five ranks of self-reported health problems were 41.8% low back pain, 29.6% visual problems and back pain, 27.7% rheumatoid diseases, 24.6% stomach pain and 23.1% hemorrhoids. Twenty-one percent of study group reported exercise regularly. Median BMI of the group was 26.49. Using gloves was 34.5% and using sun-glasses was 23.2%. Participatory education program must be implemented related to health problems of drivers.
Keywords: Drivers; low back pain; obesity; smoking; Turkey.

INTRODUCTION

Low back pain (LBP) is a major health problem in working populations. Some studies was conducted in different worker populations (1-4). The professional drivers placed in high risk group for LBP because of work conditions commonly include loading and unloading heavy cargo, irregular work-rest cycles and whole body vibration (7,8).

Turkish Association of Drivers have 1.2 million members, and Duzce Province have 7 thousands members. The health problems of transportation workers have been studied in many countries (1-6).

The primary aim of this cross-sectional study was to provide general information on sociodemographic characteristics, low back pain and obesity among professional drivers.

METHODS

Subjects

The professional drivers population was 7000 person in Duzce. Expected frequency for having low back pain 0.45 and confidence level 0.80 were obtained, then sample size was 159 person with EPI-INFO 6.0. The sample was consisted

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of 143 (89.9%) drivers registered in Local Branch of Professional Driver Association.

Questionnaire

The questionnaire included questions about demographic, having low back pain and back pain, measurements of weight and height, smoking, alcohol use and duration of sleeping. Questionnaire forms were filled by drivers under observation. Verbal inform consent was obtained from all subjects. We defined the incidence rate of subjects who experienced LBP (low back pain) confirmed by a physician in the last year as the period prevalence of the LBP.

Body weight was measured using a mobile measuring device (SIPKA) with an accuracy of ±100 g and calibrated daily. During the weighting, the drivers more only a shirt and trousers and no shoes. Height was measured with the stadiometer part of the same device without shoes. Body mass index was calculated as weight (kg)/lenght² (m). Obesity was defined as a BMI equally or greater than 30 (9).

Statistical analyses

EPI-INFO Version 2000, statistical package program was used for statistical analysis. All reported p values were two-sided and a significance criterion of $p<0.05$ was used. Chi-square test was used for the comparison of qualitative variables. Confidence interval was calculated by a scientific calculator (Casio fx/3800p).

RESULTS

The sociodemographic characteristics of the study group were shown in Table 1. The median age was 39.5 years and 54.5% of subjects completed primary school. Median years as a professional drivers was 16.

Mean duration (SE) of smoking was 21.40 (1.07) years. Seventy-two percent of them have smoked one pack and more cigarettes daily. Eighteen percent reported want to quit smoking. Twenty-seven percent of drivers reported using alcoholic beverages. Eight percent of subjects reported trying illicit drug in past. Sixty-three percent of drivers reported physically inactive and 21% physically active regularly. 21.6% of drivers were obese, and an additional 44% were overweight. Mean duration of sleeping was 7.29±0.14 (Mean±SE) hours in a day. Fourteen percent of drivers reported they sleep only 3-5 hours in a day. The prevalences of investigated health

Table 1. The sociodemographic characteristics of drivers

Characteristics	Number	Percent	Mean, Median, SE, SD, Min, Max
Age group (n=142)			
≤ 29	19	13.4	Mean:41.4
30-39	52	36.6	SE:0.94
40-49	38	26.8	SD:11.29
50-59	22	15.5	Min:19 Max:72
≥60	11	7.7	
Marital Status (n=143)			
Single, never married	14	9.8	
Married	126	88.1	
Widow	3	2.1	
Education (n=143)			
Literate	1	0.7	Mean:7
5 years	78	54.5	SE:0.25
6-9 years	39	27.3	SD:3.04
10 years and over	25	17.5	Min:3 Max:22
Years as a professional drivers (n=141)			
1-5	17	12.1	Mean:18.13
6-10	27	19.1	SE:0.90
11-15	25	17.7	SD:11.43
16-20	23	16.3	Min:1
21-25	49	34.8	Max:49
Type of used last vehicle (n=143)			
Truck	76	53.1	
Cab	22	15.4	
Bus	13	9.1	
Minibus	12	8.4	
TIR	19	13.3	
Operator	1	0.7	
Cigarette Smoking (n=143)			
Never smoker	20	14.0	
Ex-smoker	25	17.5	
Smoker	98	68.5	

SE: Standard Error of Mean; SD: Standard Deviation; Min: Minimum; Max: Maximum

Table 2. The prevalences of some symptoms and health problems

In past have you had any health problem confirmed by a physician	Number	Prevalence in study group (%)	95% CI
Low back pain (n=141)	59	41.8	37.8-45.8
Back pain (n=142)	42	29.6	25.9-33.3
Obesity (BMI≥30) (n=139)	30	21.6	18.2-25.0

CI=Confidence Interval

Table 3. Some risk factors and low back pain

Some risk factors		LBP n (%)	No LBP n (%)	p, OR (95% CI)
Age group (n=142)	≤29	7 (12.1)	11 (13.4)	
	30-39	24 (41.4)	27 (32.9)	
	40-49	12 (20.7)	26 (31.7)	p=0.65
	50-59	10 (17.2)	12 (14.6)	
	≥60	5 (8.6)	6 (7.3)	
Education (n=143)*	5 years	33		
	6-9 years	18		p=0.50
	10 years and over	8		
Height (m)	<1.63	2 (3.4)	6 (7.3)	
	1.63-1.68	18 (30.5)	23 (28.0)	p=0.65
	1.69-1.74	23 (39.0)	27 (32.9)	
	>1.74	16 (27.1)	26 (31.7)	
Duration of sleeping (n=139)				p=0.04**
	3-5 hours	11 (61.1)		OR=2.73 (0.89-8.54)
	6-13 hours	42 (36.5)		
BMI (n=136)	18.5-25	16 (34.7)		
	25.1-29.9	18 (32.1)		p=0.03**
	≥30	18 (60.0)		
Type of used last vehicle (n=141)				p=0.01**
	Cab, Minibus	8 (23.5)		OR=2.80 (1.08-7.44)
	Truck, Bus, TIR	51 (47.2)		
Years as a professional drivers (n=135)				
	≤5	1 (6.3)		
	8-10	14 (56.0)		p=0.025**
	11-15	10 (41.7)		
	16-20	11 (50.0)		
	>20	19 (39.6)		

* One illiterate person was excluded from analysis; Low Back Pain (LBP); OR= Odds Ratio; CI=Confidence Interval; **p<0.05

problems were 41.8% LBP, 29.6% back pain, and 21.6% obesity (Table 2).

Although we could not aim at the beginning of the study, we have investigated the relationship between LBP and some risk factors. The relationship between age groups, smoking, physical activity, duration of sleeping, education level and LBP was not found statistically significant (p>0.05). Statistical relationship was found important between BMI (p=0.03), type of used last vehicle (p=0.01), years as a professional drivers (p=0.025) and LBP. Truck, bus and TIR drivers have 2.8 times higher risk of LBP than cab and minibus drivers' (p=0.01, OR= 2.80, 95%CI:1.08-7.44) (Table 3).

DISCUSSION

One of the most frequent health problem among drivers was LBP caused by prolonged driving, sometimes over bumpy roads, whole vibrations, inadequate vehicle suspension, uncomfortable seats, etc. (7,8,13). Lifetime prevalence of LBP was 35-37% in community based studies (14). The lifetime prevalence of LBP was found 36.3% in Italy (2). The period prevalence 45%, the life time prevalence 55% in car drivers were reported in UK (5). The prevalence of LBP in one month of the survey was found 50.3% in Japan (4). In our study, the period prevalence of LBP was 41.8% and consistent with some studies (5) and lower than AL-Dubai's study (15). Using heavy vehicle is

an important risk factor for LBP, this may be related to long duration of driving. Ergonomic factors related work posture, long duration of work, physical inactivity may be increase the prevalence of LBP. Dissatisfaction with work status is one of the psychosocial risk factor for LBP (16). Cigarette smokers have an increased risk of LBP which may be caused by disc degeneration (17). The prevalence of smoking in our study was 68.5% showing higher rates than in general Turkish male population, 58% and also the studies of Korelitz et al., and Lam et al, being 54% and 51.7% respectively (3,10,11). Rate of current smokers was 69.2% in bus drivers in our study and 64% in another study conducted on 208 bus drivers from Turkey (12). We couldn't found any statistical relationship between physical activity, smoking, perception of life satisfaction and LBP ($p>0.05$).

Nine percent of adult Turkish males were obese by TEKHARF study (10). Prevalence of obesity was 21.6% in our group and 33.4% in Korelitz's study. Obesity rate was 16.7% in bus drivers in our study and 9.6% in a study conducted on 1761 bus drivers in Taiwan (18).

Drivers are an important vulnerable group in worker populations. Most of diseases in drivers are preventable. Using protective equipment rate was very low in this study. Despite of some limitations, the health status and lifestyle determined in this study suggest drivers would be participate to a health education and promotion program. Participatory education program must be implemented related to health problems of drivers.

The term of work duration prevalence for LBP may be use working population.

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