




**Original Article**

Factors affecting healthy lifestyle behaviors in workers working at a tea factory



Çay fabrikasında çalışan işçilerde sağlıklı yaşam biçimi davranışlarına etki eden faktörler

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ABSTRACT

Introduction: The objective of the present study was to determine educational level of the workers of a tea factory on occupational health and safety and to reveal the factors affecting a healthy lifestyle.

Methods: The present descriptive research was carried out in a tea factory where 352 workers are employed between December 2016 and January 2017. 303 volunteer workers were enrolled into the study and a questionnaire form including topics of sociodemographic characteristics, occupational health and safety (OHS) implementations, health state and working conditions that was developed through literature information as well as Healthy Lifestyle Behaviors Scale (HLBS) were used for data analysis.

Results: Age average of the workers who were all male was 39.88±5.53. Among the workers, 70.29% were elementary school graduate and more than half of the participants (62.70%) have a middle income (500-1,000 USD). Mean score of HLBS scale was 118.00±20.28 points. Average score of the sub-topics was the highest in health responsibility item with 22.06 points whereas the lowest score was detected in physical activity sub-topic. It was detected that 64.69% of the workers had an occupational health and safety training at least once during their lifetime and 21.78% use a protective equipment. Rate of exposure to work-related accidents was detected as 10.57%.

Conclusion: To have occupational health and safety training, work experience and previous work-related accidents affected healthy lifestyle behaviors.

Keywords: Healthy lifestyle, occupational health, tea workers

ÖZ

Giriş: Bu çalışmanın amacı çay fabrikasında çalışan işçilerin iş sağlığı ve güvenliği eğitim durumlarını belirleyip sağlıklı yaşam biçimi davranışlarına etkileyen faktörleri ortaya çıkarmaktır.

Yöntem: Tanımlayıcı tipteki bu araştırma Aralık 2016 ile Ocak 2017 tarihleri arasında 352 işçinin çalıştığı bir çay fabrikasında yapılmıştır. Çalışmaya 303 gönüllü işçi katılmış ve verilerin toplanmasında, literatür bilgileri doğrultusunda geliştirilen sosyodemografik özellikler iş sağlığı ve güvenliği bilgileri, sağlık durumu ve çalışma koşullarını içeren anket formu ile birlikte Sağlıklı Yaşam Biçimi Davranışları Ölçeği (SYBDÖ) kullanıldı.

Bulgular: Tamamı erkek olan işçilerin yaş ortalaması 39,88±5,53'dir. İşçilerin 213 (%70,29)ü ilkökul mezunu olup yarısından daha fazlası 190(%62,70) orta düzey ekonomik gelire (500-1000 dolar) sahipti. Ortalama SYBDÖ skoru 118,00±20,28 di. Madde puan ortalaması en yüksek olan alt grubun 22,06 puan ile sağlık sorumluluğu iken en düşük alt grup 15,34 puan ile fiziksel aktivite başlığıdır. İşçilerin %64,69 u çalışma hayatları boyunca en az bir kez iş sağlığı ve güvenliği eğitimi aldığı, %21,78 in koruyucu ekipman kullandığı saptanmıştır. İş kazasına maruz kalma oranı %10,57 olarak bulunmuştur.

Sonuç: İş sağlığı ve güvenliği eğitimi almak, iş deneyimi ve geçirilmiş iş kazaları sağlıklı yaşam biçimi davranışına olumlu yönde etki etmekteydi.

Anahtar Kelimeler: Sağlıklı yaşam, iş sağlığı, çay işçileri

Submission: Sept 26, 2017

Acceptance: Mar 29, 2018

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Introduction

A healthy lifestyle is defined as the skill to be able to control health-affecting behaviors and to select the behaviors according to her/his own health status while organizing daily activities [1].

An individual who adopt healthy lifestyle behaviors as a lifestyle habit may sustain and improve the health state. Therefore, improvement and sustainability of healthy lifestyle behaviors are essential for health and protection from the diseases. This indicates the significance of implementations to develop lifestyles which is the most important factor for protection from the diseases and improvement of the health [2,3].

Current occupational health approach is a wide-scaled discipline including wellness state of the workers, job satisfaction and life capacity [4].

Featuring health improvement behaviors in the workers is very important. The reason for that is the fact that disease risk among the workers increase by occupational hazards and risky behaviors [5].

Different definitions are made on occupational health. International Labor Organization and World Health Organization (1950) defines occupational health as follows; "To maximize physical, mental and social wellness state of the workers in all occupations and to sustain at such level; to prevent diseases because of working conditions; to protect the workers from hazardous factors for their health; to employ them in most suitable working environment for their physiological and psychological state and to sustain this; in brief, to provide adoption of human to the work and vice versa" [6,7].

Tea agriculture and tea processing are the main means of living in Rize. Majority of the workers work in tea factories as seasonal workers and this makes adoption of the workers to factory conditions difficult. Different hazards and health problems exist during tea blending, steaming and packaging. Accidents caused by lack of protective equipments which should exist in the machines and injuries due to noise, slipping, falling and lifting are common in tea-processing industry. Other hazards include dusts exposed during blending and packaging.

In literature a study showed that there are strong and consistent individual differences in health behaviours and sociodemographic variables [8].

Different studies [9,10,11] suggested that those implementing most of health protective behaviours were healthier. The education about occupational health will direct to improve health protection behaviours and enable to increase efficiency of workplace healthcare services.

In this study we aimed to investigate the factors affecting healthy life style behaviors in workers working at a tea factory.

Methods

Procedures

After taking a written consent from the factory management and approval from ethical committee of Faculty of Medicine of Recep Tayyip Erdogan University (no:2017/11); written and verbal consents of the participants were obtained.

Study Population

The present descriptive study was conducted in a tea factory in Rize between December, 2016 and January, 2017. Research universe consisted of 352 workers working in the tea factory. Principle of voluntarism was adopted in the research and workers who did not want to participate were excluded and the study was carried out with 303 (86.08% of the universe) workers.

Measures

We administered a questionnaire included 21 questions about sociodemographic features, occupational health and safety. After than; Healthy Lifestyle Behaviors Scale (HLBS) with 52 questions were performed every participants by face to face interview method.

Healthy Lifestyle Behaviors Scale (HLBS)

This scale was developed by Walker et al. depending on health improvement model by Pender in 1987 and measures health improving behaviors associated with health lifestyle of the individual. The scale was revised in 1996 and called as HLBS-II [12]. Validity and safety study of the scale in our country was performed by Bahar et al.[13] HLBS-II scale consists of 52 positive items according to quadruple likert scale (1 (never), 2 (sometimes), 3 (frequently) and 4 (regularly)). The lowest score is 52 whereas the highest score is 208. Increase in the scores obtained from the scale shows that the individual highly implements the specified health behaviors. Such scale is implemented within 10 to 12 minutes and has six subtitles:

- Self-realization determines life purpose, self-improvement skill, self-realization, and self-satisfaction states.
- Nutrition indicates selection and organization of meals by the individual and values for food selection.
- Physical activity shows at what level the individual exercises, which is an essential component of a healthy life.
- Health responsibility determines self-responsibility and self-participation level of the individual on health.
- Interpersonal support indicates communication and sustainability level of the individual with immediate environment.
- Stress management determines recognition level of stress resources and stress control mechanisms of the individual.

Total score of the scale gives the score of healthy lifestyle behaviors. Scores obtained measure individual's health-promoting behaviors related to his or her healthy lifestyle. Higher scores obtained on the scale indicate that the individual applies healthy lifestyle behaviors at a high level.

Statistical analysis

Descriptive data are expressed as numbers, percentages, and averages. Data were analyzed by the SPSS 20.0 program. Descriptive statistics, the t-test, analysis of variance (ANOVA), and the Mann–Whitney U test, as well as correlation analysis, were used for data evaluation. P values less than 0.05 were considered to indicate a statistically significant difference.

Results

The Age average of the participant workers who are all male was 39.88±5.53. Marriage ratio among the workers was 55.2% (n=168) and 45.54% of them (n=138) had at least one child. More than half of the workers 62.70% had a middle income (500-1000 USD monthly) level. The association between sociodemographic characteristics and HBLS scores of the workers was presented in table 1. There was not any significant relation between sociodemographic characteristics and HBLS scores (p>0.05) (Table 1).

Table 1. Association between sociodemographic characteristics and HBLS scores of the workers

Characteristics	N (%)	HBLS Score (±Mean)	P Value
Age			
20-30 years	87 (28.71)	114±25.45	0.716
31-40 years	123 (40.59)	116±24.93	
over 41 years	93 (30.69)	110±26.01	
Educational level			
Elementary School graduate	213 (70.29)	115±24.95	0.786
Middle school or high school graduate	78 (25.74)	117±26.78	
University graduate	12 (3.96)	117±25.54	
Economical level			
1500 TL (500 USD) and below	79 (26.07)	108±26.62	0.052
1500-3000 TL (500-1000 USD)	190 (62.70)	115±23.56	
3000 TL (1000 USD) and above	34 (11.22)	119±24.45	
Marital status			
Married	168 (55.44)	114±25.45	0.397
Single	135 (44.56)	116±24.87	
Childbearing State			
Yes	138 (45.54)	119±23.56	0.456
No	165 (54.46)	113±24.02	

When training on occupational health and safety and implementation statuses of the workers were investigated, 64.69% of the workers mentioned that they had occupational health and safety training at least once; and HLBS scores of these workers were significantly higher than other who were not trained (p=0.036). Ratio of the workers who had occupational health and safety training was 60.06% ; only 10.57% of the workers were exposed to a work accident and such workers had a significantly higher HLBS score with highest HLBS score average than the workers who were not exposed to any accident (p=0.012). Workers using personal protective equipment (PPE) were 21.78% of the participants and those using PPE had higher HLBS scores than non-users (p=0.023) (Table 2).

The association between overall health state perception and behaviors of the workers and HBLS scores were shown in Table 3. Ratio of the workers who responded overall health perception as very well was 15.84% whereas those who responded as no were 18.48% of the participants. There was not any significant difference for HBLS scores when workers with a chronic disease were compared with those without any chronic disease (p=0.693). No difference was detected in HBLS scores of non-smoker, smoker and quitted workers whereas HBLS scores of the teat workers who have drunk alcohol beverage during last 1 month were lower (p=0.012). We could not detect any difference between BMI indexes and HBLS score averages of the workers (p=0.745) (Table 3).

When sub-groups of HLBS scores were examined, the lowest score was 90 and the highest score was 208 and overall mean score was 126±21.98. The sub-group with the highest average score was health responsibility with 22.06 and the lowest sub-group score was physical activity with 15.34 (Table 4).

Table 5 indicates HLBS scores of the workers according to their occupational characteristics. Those who have work experience more than 10 years, those who have started to work at 20 years of age and the workers who work in current position less than 5 years were found with higher HLBS scores whereas HLBS scores for those working more than 10 years were significantly higher than the workers working less than 10 years (p=0.044). (Table 5)

Table 2. Association between occupational health and safety characteristics and HLBS scores

Characteristics	N (%)	HLBS Score (Mean±)	P Value
Medical examination for employment and periodical examination			
Yes	256 (84.49)	121±25.21	0.217
No	47 (15.51)	108±24.65	
Occupational health and safety training during occupational life			
Yes	182 (60.06)	119±26.56	0.041
No	121 (39.94)	107±22.36	
Occupational health and safety training at current workplace			
Yes	196 (64.69)	124±25.25	0.036
No	107 (35.31)	108±20.63	
Exposure to work accident			
Yes	32 (10.57)	126±24.26	0.012
No	271 (89.43)	112±22.26	
Use of personal protective equipment			
Yes	66 (21.78)	124±25.25	0.023
No	237 (78.22)	110±20.20	

Table 3. The association between overall health state, behaviors, and HLBS

Characteristics	N (%)	HLBS Score (Mean±)	P Value
Overall health perception			
Very well	48 (15.84)	122±25.56	0.032
Well	199 (65.68)	116±24.56	
Bad	56 (18.48)	108±25.98	
Chronic disease			
Yes	112 (36.96)	114±23.96	0.693
No	191 (3.04)	116±24.48	
Smoking status			
Non-smoker	53 (17.49)	115±24.98	0.545
Quitted	47 (15.51)	117±24.89	
Smoker	203 (67.00)	116±25.45	
Alcohol beverage consumption during last 1 month			
Yes	61 (20.13)	102±20.95	0.012
No	242 (79.87)	118±24.54	
BMI			
Overweighed or obese	115 (37.96)	112±21.25	0.745
Normal or slim	188 (62.04)	114±22.22	

Table 4. Mean scores of workers' healthy lifestyle behaviors scale subgroups

Subgroups	Mean scores ±	Minimum and maximum scores
Self-realization	21.67±4.64	9 - 36
Health responsibility	22.06±4.75	9 - 36
Physical activity	17.66±4.61	8 - 32
Nutrition	19.35±4.13	9 - 36
Interpersonal Relations	21.92±4.05	9 - 36
Stress Management	15.34±4.19	8 - 32
Scale total	118.00±20.28	52 - 208

Table 5. Association between work experience and HLBS scores of the workers

Characteristics	N(%)	HBLBS Score(Mean±)	P Value
Work density perceived			
Very intense	110(%36.30)	114±22.35	0.242
Intense	115(%37.95)	110±21.25	
Not intense	78(%25.74)	112±22.22	
Working period at current workplace			
Less than 5 years	132(%43.56)	114±22.96	0.596
More than 5 years	171(%56.44)	110±26.28	
Total working period			
Less than 10 years	110(%36.30)	109±20.29	0.044
More than 10 years	193(%63.70)	122±21.25	
Age at work start			
20 years and below	62(%20.46)	120±24.24	0.896
Over 20 years	241(%79.54)	118±23.69	

Discussion

Work-related hazards are a large problem in the world and are especially severe in developing countries, such as Turkey [14]. Increase of knowledge of the workers on healthy lifestyle behaviors would decrease workplace accidents [15].

In our study; there was not any association between any age range and HLBS scores of the workers. Although in a study [16]; age range was effective on HLBS scores; in some studies [17-19] were uneffected.

Despite the studies conducted by Pappas Na et al. [20] and Kouyonen A et al. [21] on marital and childbearing statuses of the workers, we observed no effect of these indicators on HLBS scores. This may be explained by the fact that all workers in the selected factory were male, because, especially in Turkish community, motherhood role is more valuable than fatherhood. Many women undertaking the role of motherhood are more careful about their lifestyle and health.

In our study, higher income levels were found parallel with higher HLBS scores but not significant. Such finding which is also consistent with the literature [18-22] may be explained with easier implementation of a healthy lifestyle by healthy life behavior (regular medical check-up, regular diet etc.).

The highest HLBS score in the present study was observed in the group who have been exposed to any work accident before with an average of 126±24.26 and this was followed by the workers who use protective equipment. This indicates the effect of bad previous experiences on health improving behaviors. The most common health complaints of the workers were low back-neck pain. MSDs are the most widespread and costly work-related health problem in Europe, affecting about 45 million workers [23]. A significant association was found between very well overall health perception and HLBS scores ($p<0.05$). In a study conducted in USA detected that employees who perceive their own health state as well presented better health behaviors [24].

A positive correlation was detected between HLBS scores of non-smokers and smokers or quitted workers in the present study. Similar outcomes were obtained for effect of smoking on HLBS scores [21-24]. According to the data of Turkish Health Research [25] for 2012, incidence of tobacco use is 38.0%, alcohol use incidence is 17.2% and obesity incidence is 13.7% in males.

Alcohol use was reported to cause labor power and financial losses because of health problems such as cardiovascular diseases, cirrhosis as well as work accident and communication problems [26, 27]. This was correlated with our study results that HLBS was lower in alcohol users and significant relation.

Workers who apply a regular diet and exercise program had higher HLBS scores. There are studies supporting these results in the literature [28]. Regular exercise and sports affect work performance positively.

Studies conducted in Taiwan [29] and our country [19] detected a significant association between work experience period and HLBS of the workers like our study. Early onset of occupational life and following a long period in such occupation may be a factor to be able to adopt positive health behaviors as permanent skills.

Total average score of the workers in our study was 118.00±20.28. This outcome is in line with the studies carried out by Ilhan N et al. [30] and Ozkan S et al. [31] in the literature. The subgroup with the highest score in the scale was health responsibility whereas the lowest subgroup was under stress management item.

The present study has some limitations. First, all of the workers were male and gender difference could not be revealed. Especially smoking and alcohol use might have caused higher ratios in the questions about smoking and alcohol use. Another limitation is work intensity perception and stress states might have been found higher because majority of the workers have additional work.

Conclusion

The present study detected that the workers in a tea factory had moderate health improvement behaviors. The subgroup with the highest HLBS score was health responsibility whereas the lowest score belonged to stress management subgroup. Working period more than 10 years, occupational health and safety training during occupational life, use of protective equipment and previous work accidents were found effective on HLBS scores.

Through these results, organizing individual/group trainings focused on increase of sensitivity and adoption of behaviors about health risks, healthy life behaviors by workplace doctor and nurse would be useful.

Conflict of interest: none

Funding: none

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