

THE EFFECT OF WORK-RELATED RISK FACTORS ON WORKABILITY OF JUDICIAL SUMMONERS

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Introduction. The increase of work load in the courts of the bigger towns in the country in the last decades may affect the health and workability of judicial staff. The aim of the study was to identify the work-related factors influencing the health and workability of judicial summoners.

Methods. The study comprises 52 judiciary summoners, 37 females and 15 males of mean age ($47,90 \pm 10,90$) yrs. Job analysis and questionnaire survey on work conditions and organization, sources of stress at work and health complaints were carried out. Work ability was assessed using work ability index (WAI).

Results. The main risk factors were high pace and strain at work, emotional load due to contact with many people, work under time pressure, need of permanent concentration and overtime. Work led to physical exhaustion after work in 61,5 % of the summoners and to emotional exhaustion in 50 % of the respondents. The rate of health complaints was high, and the most common were the complaints of pains in the bones, joints and muscles, frequent fatigue, dizziness, anxiety, etc. A large proportion of the respondents reported diagnosed chronic diseases, the most common were musculoskeletal disorders, respiratory and digestive diseases. Work ability was estimated as good or excellent by half of the respondents and was determined by health status and mental resources.

Conclusion. The main determinants of health complaints were high strain, need of permanent concentration and overtime, while of work ability health status and mental resources. To strengthen health and work ability of occupational groups with similar job characteristics it is necessary to take adequate measures to improve work conditions and organization.

Key words: work organization, health complaints, work ability, judicial summoners

Introduction

The number of new entrants in the bigger towns of the country steadily continue to increase and the increase in the staffs cannot compensate the increase of the cases, leading to increases in workload. Our earlier data [1] have shown variety of risk factors contributing to stress, emotional and physical exhaustion and psychosomatic complaints in judicial clerks. Variety measures were taken to improve work conditions and strengthen work organization in some courts, mostly pointed towards the problems at work of the judges and judicial clerks. One of the occupational groups was not faced with the same attention, and these are the judicial summoners, responsible to hand over the subpoenas, a writ ordering a person to attend the court, as well as notices and different court papers. An important aspect of their work are the unsocial working hours of handing over the subpoenas and contact with many people, in many cases bringing negative emotions.

The increasing load is a prerequisite for intensive work under time pressure, which along with unsocial working hours and variety organizational factors contributes to higher levels of stress at work [2–5]. Health is the major determinant of work ability [6,

7], i. e. person's ability to perform work for a certain time without reducing capacity and quality, without feeling fatigue and exhaustion. High work ability is a prerequisite for continued active work and lower burden on the social systems [8]. Along with many individual factors such as health, qualification and motivation of the employees, work conditions and organization are important for maintaining high work ability.

The aim of the study was to identify the work-related factors influencing the health and workability of judicial summoners.

Material and methods

Judicial summoners from a court with a high number of new entrants were investigated. The survey comprised 52 judicial summoners in civil and criminal divisions. 37 females and 15 males of mean age ($47,9 \pm 10,9$) yrs. (minimum 20 years, maximum – 63) were studied and the deal of employees in the age group > 55 yrs. was the largest (40,4 %). The average length of service of the studied group was ($23,0 \pm 11,2$) yrs., and the average length of service in this profession was ($6,3 \pm 5,4$) yrs.

Job analyses included observation, interviews and chronometry of the main activities. An anonymous questionnaire survey was carried out to assess work conditions and characteristics (17 questions), work organization and sources of stress and tension at work (15 questions) and health complaints of the employees (17 questions). The questionnaire included three questions on the employees self-rated health and whether they felt physically and emotionally exhausted after work during the last 4 weeks [9], valued through four point scale.

Work ability was evaluated with the index of work ability (WAI), developed by the Finnish Institute of Occupational Health [10], translated in Bulgarian [11]. The questionnaire entails 7 dimensions, each covered by means of one or more questions: current work ability compared with lifetime best, work ability in relation to job demands, the number of diagnosed diseases, subjective estimate of work impairment due to diseases, sicknesses absence during the past year, own prognosis of work ability 2 years later and mental resources. The WAI was calculated by summing the points of each item. The final index score range was 7–49 points and the value indicated the work ability and the objectives of measures needed as follows:

7–27 points – poor work ability, restore work ability;

28–36 points – moderate work ability, improve work ability;

37–43 points – good work ability, support work ability;

44–49 points – excellent work ability; maintain work ability.

Statistical data processing was carried out with variation, correlation and regression analysis using SPSS 15.0 statistical package.

Results

Job analysis

The summoners tasks include handing over the subpoenas, a writ ordering a person to attend the court, as well as notices and different court papers; coordinating their activities with court clerks and other summoners. They are responsible for the timely handing over of subpoenas and other papers, immediate return of the second copies and accurate marking of the reasons for non-service of subpoenas. There is an office for summoners, but they spend most of their working time out of the office.

Work organisation

The majority of the respondents (78,8 %) consider their work as diverse, but with high and very high intensity (94,2 %) and emotional stress (84,6 %) due to contact with many people. The pace of work was defined as high and very high according to 96,2 % of the respondents, 57,7 % considered that they worked under time pressure, and according 78,8 % the work required permanent concentration. 98 % of the respondents worked overtime.

Often emotionally exhausted after work felt 63,5 % of the respondents, and physically exhausted – 76,9 %. The data from stepwise regression analysis showed that the physical exhaustion was set in a highly significant model by high pace, overtime, work under time pressure and monotonous work, while emotional exhaustion was related to high strain at work and monotonous work (Table 1).

Health complaints

Health was considered satisfactory by 40,4 % and good by 32,7 % of the respondents. 19,2 % of the

Table 1
Effect of work conditions and organization on the feeling of physical and emotional exhaustion after work

Variables		β	t	p
Dependents	Predictors			
1. Physical exhaustion	High pace	.462	4.766	.000
	Overtime	.265	2.745	.009
	Time pressure	.226	2.109	.040
	Monotonous work	.204	2.233	.030
$r^2 = 61,3 \%$, $F = 21,213$, $p = 0,0$				
2. Emotional exhaustion	High strain	.476	4.029	.000
	Monotonous work	.260	2.202	.032
$r^2 = 32,9 \%$, $F = 13.528$, $p = 0,0$				

summoners rated that their health as very good and 7,7 % defined it as poor. The leading health complaints in the last half year were pains in bones, joints and muscles (in 73,1 % of the subjects), anxiety (in 69,2 %), frequent fatigue (in 61,5 %), dizziness (in 53,8 %), heaviness and swelling of the stomach (in 53,8 %), forgetting (in 51,9 %), numbness or «pins and needles» in the extremities (in 48,1 %), complains from the eyes (42,3 %), chest pain (in 44,2 %), nervous stomach (in 36,5 %), sleep disorders (50,0 %), frequent headaches (32,7 %), etc. Data from stepwise regression analysis showed that musculoskeletal complaints were related to overtime work in highly significant model (Table 2). The feeling of fatigue was significantly associated with high strain and overtime work. The need of permanent concentration and overtime work were the major determinants of high blood pressure, complaints from headaches and sleep problems.

Lifestyle factors

The proportion of smokers was high (38,5 %). 25 % of the investigated did not exercise and 51,9 % rarely. 82,7 % had brisk walking every day, most probably due to their job tasks. Half of the summoners were sometimes motivated to have healthy diet, and 26,7 % always. 24 persons rarely consumed fatty foods and 8 persons – never. Body mass index exceeded the norm in 46,2 % of the summoners, respectively they had overweight.

Work ability

The mean WAI was ($38,37 \pm 7,41$) without significant differences between the genders, slightly higher for the male summoners ($39,0 \pm 7,41$) compared with females ($38,11 \pm 5,95$). The work ability of the majority of the respondents was good (42,3 %), followed by those with moderate work ability (32,7 %) and excellent work ability (21,2 %). The deal of individuals with low work ability was low (3,8 %). The prevailing data showed excellent work ability compared to life time best in 44,2 % of the respondents and good in 19,2 %. The work ability in relation to job demands was defined as excellent by 50 % and good by 32,7 %.

The chronic diseases incidence data showed more than 3 diagnoses by physician in 8 subjects (15,4 %), while 15 subjects (28,8 %) had from 1 to 3 diagnosed diseases. 29 persons (55,8 %) reported no diagnosed chronic diseases. Subjective data showed that chronic diseases affected work ability of 8 individuals leading to changes in the work pace. More than half of the summoners had no sickness absences during the last year (71,1 %). 15,4 percents had absences up to 9 days, while seven individuals (13,5 %) had longer sickness absences – from 10 to 99 days. There were no prolonged sickness absences of more than 100 days with the studied group.

About two-thirds of the employees had maintained good mental resources and 85 % believed that within

Table 2

Effect of work conditions and organization on health complaints

Variables		β	t	p
Dependents	Predictors			
1. Musculoskeletal complaints	Overtime	.334	2.508	0.015
$r^2 = 9,4 \%$, $F = 6,290$, $p = 0,015$				
2. Fatigue	High strain at work	.503	4.711	0.000
	Overtime	.360	3.371	0.001
$r^2 = 50,1 \%$, $F = 26.653$, $p = 0,0$				
3. Headache	Need of concentration	.375	3.020	0.004
	Overtime	.311	2.508	0.016
$r^2 = 21,7 \%$, $F = 8,086$, $p = 0,001$				
4. High blood pressure	Need of concentration	.319	2.504	0.016
	Overtime	.308	2.413	0.020
$r^2 = 17,3 \%$, $F = 6,349$, $p = 0,004$				
5. Sleep disorders – often waking	Emotional exhaustion	.336	2.642	0.011
	Need of concentration	.289	2.269	0.028
$r^2 = 18,1 \%$, $F = 6,649$, $p = 0,003$				

two years would certainly maintain their work ability, while 11,5 % chose the option – probably. One person believed that would not be able to maintain work ability within two-year period of time.

The musculoskeletal disorders, respiratory diseases and digestive system diseases, cardiovascular diseases and endocrine diseases (Figure) were the most commonly diagnosed diseases by physician reported among the studied group.

The data from the regression analysis showed that the main determinants of work ability in relation to job demands were mental resources and high strain at work, while of WAI – mental resources and health (Table 3).

The model includes age, length of service, gender, self-rated health, mental resources and indexes, related to work conditions and organization

Discussion

The major risk factors, related to work organization were high strain, emotional load, intensity and need of permanent concentration during work. The intensification of work is an important stressor [12], often associated with work under time pressure and overtime work. The number of complaints of work organization of the studied group was high and their frequency exceeded that of other studied groups in the country and the European Union [13, 14]. 76,9 % of the summoners felt physically and 63,5 % emotionally exhausted after the work day. The physical exhaustion was determined by overtime, time pressure, high pace and monotonous work, while the emotional exhaustion was associated with high strain and monotonous work. The length of overtime has shown linear associations with various psychosomatic stress responses [15, 16] and frequent overtime along with

work overload contribute to the multifaceted work-related fatigue [17].

The frequency of health complaints in the studied group was high, the leading complaints were pains in the bones, joints and muscles, frequent fatigue and anxiety. The rate of these complaints was higher in the studied group in comparison to other groups in the country and European Union [13, 14], but comparable to the findings for judicial clerks [1]. The rate of the diagnosed by a physician musculoskeletal disorders was comparable with other groups studied [18, 19]. It is known that musculoskeletal complaints are an early sign of musculoskeletal disorders. World Health Organization and the International Labour Organisation pointed that work-related musculoskeletal disorders are preventable, respectively special attention is required as they emerge. The disorders of the musculoskeletal system have multifactorial etiology [20]. Along with many ergonomic factors such as repetitive movements, force, speed of operation and static load, a number of organizational factors such as high demands and low control at work are known to be associated with a higher incidence of musculoskeletal symptoms in the neck/shoulders [8, 21]. Our data show that the main determinant of musculoskeletal complaints among the studied summoners was the overtime work, while for occurrence of fatigue – high strain and overtime work.

The deal of individuals with complaints of anxiety, dizziness, headache, sleep problems was high. Such complaints had 50 to 69 percent of the respondents, the rate was higher compared with other studied groups in European Union and Bulgaria [13, 14, 16]. Key determinants of headaches and sleep problems were the overtime and the need of permanent concentration.

In accordance with the high number of health complaints the data showed high rate of individuals with

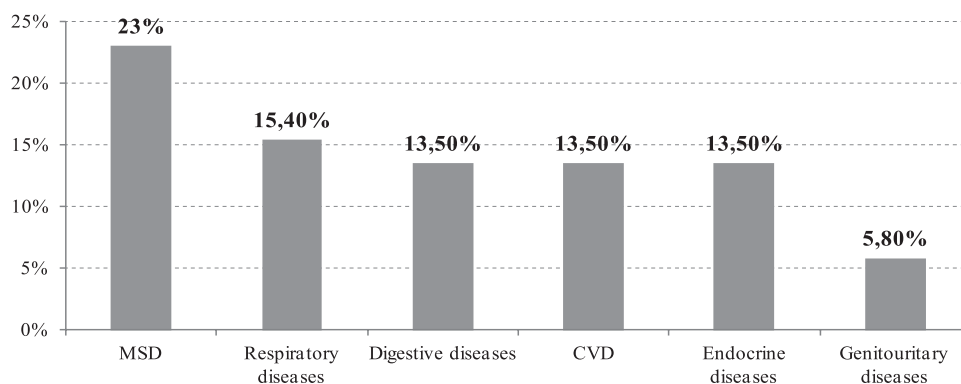


Figure. Rate of employees with diagnosed chronic diseases, %

Table 3

Effect of individual and organizational factors on workability

Indexes		β	t	p
Dependents	Predictors			
1. Workability in relation to the job demands	Mental resources	.191	1.313	.196
	High stress	-.326	-2.234	.030
r ² = 16,0 % F = 5,583 p = 0,007				
2. WAI	Mental resources	.461	4.660	.000
	Self-rated health	.535	5.410	.000
r ² = 53,8 % F = 28,920 p = 0,0				

diagnosed by a physician diseases (44,2 % of the respondents), 15,4 % were with more than three diagnoses. The most common were the musculoskeletal disorders, respiratory, digestive and cardiovascular diseases. Data from our study showed that chronic diseases affected the work ability of 8 individuals, leading to changes in the work pace and are consistent with the rates of employees with a sense of physical and / or emotional exhaustion at the end of workday. Problematic aspects of lifestyle factors, directly related to health, were the high incidence of smoking. Besides following healthy diet, 46,2 % of the summoners had overweight, risk factor for early disability [22] and early exit from the labor market [23].

Excellent and good work ability compared with the lifetime best was maintained in 63,4 % of the investigated summoners and in relation to job demands in 82,7 %. Key determinants of work ability in relation to job demands were mental resources and high strain. During the last year, 71,1 percent of the surveyed had no absences from work, in the rest prevailed absences up to 9 days. Mental resources were well preserved in 67,3 % of the subjects, a lower level than other followed by us occupational groups [18, 19], where the employed had higher educational attainment.

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More than half of respondents had excellent and good work ability, determined by mental resources and health, which is consistent with findings from several other studies [22–24]. The improvement of the work conditions and organization of the studied summoners can contribute to better health and work ability.

In conclusion, the main risk factors were high strain at work, emotional load, time pressure and need of permanent concentration during work, as well as overtime. Work of 76,9 % of the summoners lead to physical exhaustion after the work day, determined by overtime, time pressure and high pace. The emotional exhaustion was observed with 63,4 %, related to high strain and monotonous work. The rate of health complaints was high and the main ones were pains in the bones, joints and muscles, frequent fatigue, dizziness, anxiety, etc. The main determinants of health complaints were overtime, high strain and need of permanent concentration. Work ability was rated as excellent or good by half of the respondents and was determined by health status, mental resources and organizational factors. Adequate measures to improve the work conditions and organization are needed for health and work ability promotion of occupational groups with similar work characteristics.

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ВПЛИВ ВИРОБНИЧИХ ФАКТОРІВ РИЗИКУ НА ПРАЦЕЗДАТНІСТЬ СПІВРОБІТНИКІВ СУДОВИХ ОРГАНІВ

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Вступ. Збільшення робочого навантаження в судах великих міст країни в останні десятиліття може вплинути на здоров'я та працездатність співробітників судових органів.

Мета дослідження – виявити пов'язані з роботою фактори, що впливають на здоров'я та працездатність судових приставів.

Матеріали та методи дослідження. У дослідження включені 52 судових пристави – 37 жінок і 15 чоловіків, середній вік – (47,9 ± 10,9) років. Було проведено аналіз роботи та анкетування щодо умов і організації праці, джерел стресу на роботі і скарг на здоров'я. Працездатність оцінювалася за допомогою індексу працездатності (WAI).

Результати. Основними факторами ризику були високий темп і напруга на роботі, емоційне навантаження через контакт з великою кількістю людей, робота в умовах обмеженого часу, необхідність постійної концентрації та понаднормова робота. Робота в таких умовах привела до фізичного виснаження в 61,5 % і до емоційного виснаження у 50,0 % респондентів. Кількість скарг на здоров'я було високим, і найпоширенішими були скарги на болі в

кістках, суглобах і м'язах, часті втому, запаморочення, неспокій і т. д. Значна частина респондентів повідомили, що в них діагностовано хронічні захворювання. Найпоширенішими були захворювання опорно-рухового апарату, органів дихання та травлення. Працездатність оцінювалася як хороша або відмінна в половині респондентів і визначалася здоров'ям і розумовими здібностями.

Висновки. Основними детермінантами скарг на здоров'я були сильна напруга, необхідність постійної концентрації та понаднормової роботи, а також працездатність, здоров'я та розумові ресурси. Для зміцнення здоров'я й працездатності професійних груп зі схожими характеристиками роботи необхідно вживати адекватних заходів щодо поліпшення умов праці та організації.

Ключові слова: організація праці, скарги на здоров'я, працездатність, судові пристави

Вангелова К., Димитрова И., Станчев В.

ВЛИЯНИЕ ПРОИЗВОДСТВЕННЫХ ФАКТОРОВ РИСКА НА РАБОТОСПОСОБНОСТЬ СОТРУДНИКОВ СУДЕБНЫХ ОРГАНОВ

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Вступление. Увеличение рабочей нагрузки в судах крупных городов страны в последние десятилетия может повлиять на здоровье и работоспособность сотрудников судебных органов.

Цель исследования — выявить связанные с работой факторы, влияющие на здоровье и работоспособность судебных приставов.

Материалы и методы исследования. В исследование включены 52 судебных приставы — 37 женщин и 15 мужчин, средний возраст — $(47,9 \pm 10,9)$ лет. Был проведен анализ работы и анкетирование относительно условия и организации труда, источников стресса на работе и жалоб на здоровье. Трудоспособность оценивалась с помощью индекса трудоспособности (WAI).

Результаты. Основными факторами риска были высокий темп и напряжение на работе, эмоциональная нагрузка из-за контакта с большим количеством людей, работа в условиях ограниченного времени, необходимость постоянной концентрации и сверхурочная работа. Работа в таких условиях привела к физическому истощению у 61,5 % и к эмоциональному истощению у 50,0 % респондентов. Количество жалоб на здоровье было высоким, и наиболее распространенными были жалобы на боли в костях, суставах и мышцах, частые усталость, головокружение, беспокойство и т. д. Значительная часть респондентов сообщили, что у них диагностированы хронические заболевания. Наиболее распространенными были заболевания опорно-двигательного аппарата, органов дыхания и пищеварения. Трудоспособность оценивалась как хорошая или отличная у половины респондентов и определялась состоянием здоровья и умственными способностями.

Выводы. Основными детерминантами жалоб на здоровье были сильное напряжение, необходимость постоянной концентрации и сверхурочной работы, а также трудоспособность, состояние здоровья и умственные ресурсы. Для укрепления здоровья и трудоспособности профессиональных групп со схожими характеристиками работы необходимо принимать адекватные меры по улучшению условий труда и организации.

Ключевые слова: организация труда, жалобы на здоровье, трудоспособность, судебные приставы

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