



V prihodnost na
izkušnjah preteklosti

50 let KIMDPŠ:

V prihodnost na izkušnjah preteklosti

KNJIGA POVZETKOV

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

614.2(497.4Ljubljana):616-057"1971/2021"

50 let KIMDPŠ: v prihodnost na izkušnjah preteklosti (srečanje)
(2022 ; Ljubljana)

50 let KIMDPŠ: v prihodnost na izkušnjah preteklosti : knjiga
povzetkov / [uredila Nataša Dernovšček Hafner]. - Ljubljana :
Univerzitetni klinični center, Klinični inštitut za medicino dela,
prometa in športa, 2022

ISBN 978-961-6921-28-2
COBISS.SI-ID 107295491

Izdal in založil:

Univerzitetni klinični center Ljubljana,
Klinični inštitut za medicino dela, prometa in športa

Organizacijski in programski odbor srečanja:

Izr. prof. dr. Metoda Dodič Fikfak (predsednica)
Asist. dr. Nataša Dernovšček Hafner
Dr. Andrea Margan
Doc. dr. Marija Molan
Doc. dr. Nevenka Šestan
Tanja Urdih Lazar
Dr. Martin Zorko

Uredila:

Asist. dr. Nataša Dernovšček Hafner

Jezikovni pregled:

Nina Krajnc

Angleška lektura in prevodi:

Deks d.o.o.

Oblikovanje in tisk:

ZERA D.O.O.

Naklada:

250 izvodov

Ljubljana, maj 2022



50 let KIMDPŠ:

V prihodnost na izkušnjah preteklosti

KNJIGA POVZETKOV

KAZALO

KJE SMO BILI IN KAM GREMO: IZKUŠNJE IZ PRETEKLOSTI IN VIZIJA ZA PRIHODNOST WHERE WE HAVE BEEN AND WHERE WE ARE HEADED: OUR PAST EXPERIENCE AND VISION FOR THE FUTURE <i>Metoda Dodič Fikfak</i>	11
POGLED NAPREJ: LEKCIJE IZ PANDEMIJE ZA ZDRAVJE NA DELOVNEM MESTU LOOKING AHEAD: LESSONS FROM THE PANDEMIC FOR OCCUPATIONAL HEALTH <i>David Kriebel</i>	15
KAKO MERITI IZPOSTAVLJENOST NANODELCEM PRI DELAVCIH: PREGLED HOW TO BIOMONITOR EXPOSURE TO NANOPARTICLES IN WORKERS: A REVIEW <i>Daniela Pelclova, Vladimir Zdimal, Andrea Rossnerova</i>	18
VLOGA ZDRAVNIKOV SPECIALISTOV MEDICINE DELA PRI KRIZNEM UPRAVLJANJU: LEKCIJE, NAUČENE MED PANDEMIJO COVIDA-19 THE ROLE OF THE OCCUPATIONAL HEALTH PHYSICIAN IN CRISIS MANAGEMENT: LESSONS LEARNED DURING THE COVID-19 PANDEMIC <i>Peter Bulat, Stefan Mandić-Rajčević</i>	21

VODENJE KORONAVIRUSNE BOLEZNI NA DELOVNEM MESTU V ITALIJI COVID MANAGEMENT IN THE WORKPLACE IN ITALY <i>Alessia Angelini, Lucia Miligi, Stefano Silvestri</i>	23
ZAGOTAVLJANJE UČINKOVITEGA VEDENJA - IZZIV OD ČASA AVTOMATIZACIJE DO ČASA UMETNE INTELIGENCE ENSURING EFFECTIVE BEHAVIOR: A CHALLENGE FROM THE TIME OF AUTOMATION TO THE TIME OF ARTIFICIAL INTELLIGENCE <i>Marija Molan</i>	26
DOSEŽKI NA PODROČJU SODOBNE DIGITALNEGA PSIHOLOŠKEGA TESTIRANJA DEVELOPMENTS AND ACHIEVEMENTS IN MODERN DIGITAL PSYCHOLOGICAL ASSESSMENT <i>Thomas Eberhartl</i>	29
INTERDISCIPLINARNI PRISTOP PRI OBRAVNAVI ŠPORTNIKA AN INTERDISCIPLINARY APPROACH TO TREATING ATHLETS <i>Gregor Kavaš</i>	30
NA IZKUŠNJAH PRETEKLOSTI K UČINKOVITEJŠI PROMOCIJI ZDRAVJA PRI DELU LEARNING FROM THE PAST TO ACHIEVE MORE EFFECTIVE WORKPLACE HEALTH PROMOTION <i>Eva Stergar, Tanja Urdih Lazar</i>	32
ZGODNJA POKLICNA IN ZAPOSLOTIVENA REHABILITACIJA V PROCESU VRAČANJA NA DELO - PRELIMINARNO POROČILO PROJEKTA EARLY OCCUPATIONAL AND EMPLOYMENT REHABILITATION WHEN RETURNING TO WORK: A PRELIMINARY PROJECT REPORT <i>Metka Teržan, Valentina Brecelj, Nuša Kerč</i>	35

ANALIZA ZDRAVSTVENEGA STANJA DELAVCEV IZBRANIH POKLICNIH SKUPIH, VKLJUČENIH V POKLICNO ZAVAROVANJE - REZULTATI PROJEKTA PREMIK ANALYSIS OF WORKERS' HEALTH IN SELECTED OCCUPATIONAL GROUPS COVERED BY OCCUPATIONAL INSURANCE: THE RESULTS OF THE PREMIK PROJECT <i>Martin Kurent</i>	38
PREUČEVANJE GENSKO OKOLJSKIH INTERAKCIJ NA PRIMERU AZBESTNIH BOLEZNI STUDYING GENE-ENVIRONMENT INTERACTIONS: THE CASE OF ASBESTOS-RELATED DISEASES <i>Alenka Franko, Vita Dolžan, Katja Goričar, Viljem Kovač, Metoda Dodič Fikfak</i>	40
PREZENTIZEM MED ZDRAVSTVENIMI DELAVCI INVALIDI PRESENTEEISM AMONG DISABLED HEALTH WORKERS <i>Alenka Škerjanc</i>	43
PRESTRUKTURIRANJE V TEKSTILNI INDUSTRIJI IN ZDRAVJE DELAVCEV TEXTILE INDUSTRY RESTRUCTURING AND WORKERS' HEALTH <i>Katja Draksler, Nataša Dernovšček Hafner, Metoda Dodič Fikfak</i>	46
VPLIV PODATKOV O ZDRAVJU DELAVCEV NA ODLOČANJE DELODAJALCA MED PROCESOM KADROVSKEGA PRESTRUKTURIRANJA THE IMPACT OF WORKERS' HEALTH DATA ON EMPLOYERS' DECISIONS DURING WORKFORCE RESTRUCTURING <i>Andrea Margan, Metoda Dodič Fikfak</i>	49
»VIENNA TEST SYSTEM« IN NJEGOVA APLIKACIJA V MEDICINI DELA, PROMETA ŠPORTA APPLYING THE VIENNA TEST SYSTEM TO OCCUPATIONAL, TRAFFIC, AND SPORTS MEDICINE <i>Matej Čeh</i>	52
PSIHOFIZIČNE OMEJITVE PRI NASTANKU PROMETNIH INCIDENTOV PRI VOZNIKI PSYCHOPHYSICAL LIMITATIONS IN THE OCCURRENCE OF TRAFFIC INCIDENTS AMONG DRIVERS <i>Nevenka Šestan, Zvone Balantič, Metoda Dodič Fikfak</i>	55

DIAGNOSTIKA IN ZDRAVLJENJE TENDINOPATIJ PRI ŠPORTNIKI TENDINOPATHY DIAGNOSTICS AND TREATMENT IN ATHLETES <i>Martin Zorko</i>	57
SPREMEMBE DOMINANTNE RAME PRI ŠPORTIH Z GIBI ROKE NAD GLAVO SHOULDER INJURIES IN SPORTS INVOLVING ARM MOVEMENTS ABOVE THE HEAD <i>Katarina Cunder</i>	60
ŠPORTNA PREHRANA: PRETEKLOST, SEDANJOST IN PRIHODNOST SPORTS NUTRITION: PAST, PRESENT, AND FUTURE <i>Iva Jurov</i>	63
VPLIV PANDEMIJE COVIDA-19 NA ŽIVLJENJE - IZSLEDKI RAZISKAVE SI-PANDA THE IMPACT OF THE COVID-19 PANDEMIC ON PEOPLE'S LIVES: FINDINGS OF THE SI-PANDA STUDY <i>Ada Hočevar Grom</i>	64
SKRB ZA DUŠEVNO ZDRAVJE DELAVCEV V ZDRAVSTVU MED EPIDEMIJO COVIDA-19 TAKING CARE OF HEALTH WORKERS' MENTAL HEALTH DURING THE COVID-19 PANDEMIC <i>Nataša Dernovšček Hafner</i>	67
PSIHOSOCIALNI DEJAVNIKI IN INDEKS DELOVNE ZMOŽNOSTI PRI STEKLOPIHALCIH (PRIMERJAVA INDEKSA MED 2017 IN 2021) PSYCHOSOCIAL FACTORS AND THE WORK ABILITY INDEX IN GLASSBLOWERS (COMPARING THE 2017 AND 2021 INDICES) <i>Sabina Mataln, Tihomir Ratkajec</i>	70
NEUDOBJE V GIBALIH PRI BOLNIČARJIH V ŠTIRIH DOMOVIH ZA STAREJŠE OBČANE IN UPORABA POVRŠINSKE ELEKTROMIOGRAFIJE POSTURAL DISCOMFORT IN NURSE CAREGIVERS AT FOUR RETIREMENT HOMES AND THE APPLICATION OF SURFACE ELECTROMYOGRAPHY <i>Davor Romih, Tihomir Ratkajec</i>	73
INDEKS DELOVNE ZMOŽNOSTI PRI ZAPOSLENIH V DOMOVIH ZA STAREJŠE OBČANE THE WORK ABILITY INDEX OF RETIREMENT HOME EMPLOYEES <i>Jernej Hren, Tihomir Ratkajec</i>	75



POVZETKI
ABSTRACTS

KJE SMO BILI IN KAM GREMO: IZKUŠNJE IZ PRETEKLOSTI IN VIZIJA ZA PRIHODNOST

WHERE WE HAVE BEEN AND WHERE WE ARE HEADED: OUR PAST EXPERIENCE AND VISION FOR THE FUTURE

izr. prof. dr. Metoda Dodič Fikfak

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
metoda.dodicfikfak@kclj.si*

POVZETEK

Kadarkoli smo v Sloveniji govorili o inštitutu za medicino dela, smo vedno hote ali nehoti govorili tudi o vseslovenski medicini dela. Inštitut je bil vedno povezan s perifernimi centri, nekateri dispanzerji pa so bili njegova podaljšana roka.

Razlog za to je bila najverjetneje vizija njegovega ustanovitelja prof. dr. Sama Modica, ki je ne le ustanovil KIMDPŠ, pač pa tudi slovensko medicino dela. To mu je omogočila velika razgledanost in zaupanje politikov, ki so mu omogočili, da je zamisel tudi formalno izpeljal. Poseben poudarek preteklega razvoja inštituta gre prav gotovo razvoju dispanzerjev medicine dela, ki so bili v mreži razporejeni po celi Sloveniji in seveda obratnim ambulantam, ki jim v nekaterih državah vračajo pomen. Dispanzerji medicine dela so bili postavljeni regionalno, obratne ambulante pa so domovale v večjih tovarnah, bile so kurativne ali pa kurativno-preventivne.

Inštitut je bil vse do srede osemdesetih let tudi edukacijski center specializantov medicine dela, prometa in športa, pa tudi višjih medicinskih sester, ki so si na t. i. podiplomskem študiju nabrale odličnih znanj iz medicine dela.

Področja, ki jih inštitut sam ni imel, je inovativno razvijal preko sodelavcev v dislociranih dispanzerjih ali raziskovalnih inštitutih. Tak primer je bilo sodelovanje s prof. dr. Jankom Sušnikom, vrhunskim fiziologom dela. Inštitut je bil tudi center raziskovanja v medicini dela in deloma medicini okolja; veliko se je ukvarjal s premisleki o zdravju delavca in njegovih obremenitev, raziskoval je posledice hudih onesnaževanj okolja, npr. PCB v Beli krajini, tesno je sodeloval s kolegi, ki so raziskovali vplive živega srebra in svinca, izdeloval je nešteto ocen tveganja in ekspertiz za poklice, ki so bili po takratnem mnenju posebej obremenjeni... V center za medicino športa, ki je

že zaradi vsebine svojega dela vseskozi živel svoje življenje, so prihajali vrhunski športniki, ko so bili poškodovani ali ko so rabili pregled pred tekmovanjem. Vsekakor so bili na inštitutu postavljeni trdni razvojni temelji in podlage za nadaljnji razvoj zdravja pri delu in športu, interdisciplinarnosti, edukacije in raziskovanja.

Prelomnica v razvoju inštituta je bila gotovo med leti 1990 in 2000, ko je veljalo politično prepričanje, da je potrebno medicino dela izbrisat kot specializacijo, ker je to "socialistična medicina".

Leto 1999 je z novim zakonom o varnosti in zdravju pri delu, pri katerem so sodelovali specialisti medicine dela z inštituta, prof. Sušnik pa je namenoma, da bi pomagal na pot novemu zakonu, postal državni svetnik, nova prelomnica v razvoju inštituta. Desetletje recesije je pustilo tako na inštitutu kot na slovenski medicini dela težke posledice. Predvsem so bili zaradi pomanjkanja zgodovinskega spomina porušeni vsi odlično zastavljeni temelji t. i. socialistične medicine dela, ki jih bi bilo potrebno le naprej razvijati. Nova zakonodaja, sicer usklajena z EU, nam je vsilila marsikdaj slabše modifikacije področij, ki smo jih že odlično poznali. Na nek način smo začenjali znova. V dvajsetih letih smo uspeli predvsem področje medicine dela razširiti na zdravje pri delu, inštitutu smo dodali center za promocijo zdravja, primarno smo vzpodbujali izobraževanje in podiplomski študij. V dvajsetih letih smo dobili deset doktorjev znanosti, uspelo nam je dobiti raziskovalni denar in ne nazadnje smo prvič v zgodovini medicine dela, prometa in športa pod isto, novo streho; pogoji za delo so neprimerno boljši. Tesno smo povezani z ZZS in njenim koordinatorjem specializacije, ki jo skupaj dopolnjujemo, v zadnjih letih pa strokovno in raziskovalno sodelujemo tudi z ministrstvi za delo in zdravje. Naši učitelji širijo znanje o varnosti in zdravju pri delu na različnih šolah. Gotovo pa ostajajo naši največji neuspehi nerealizirana prizadevanja, da bi se v Sloveniji priznavale poklicne bolezni in da bi se ustanovilo samostojno raziskovalno področje pri ARRS, ki bi bilo namenjeno le zdravju in varnosti pri delu. To sta tudi naši dve poglobilni nalogi za naprej.

Ključne besede:

Inštitut za medicino dela, prometa in športa, Samo Modic, Janko Sušnik, cilji za prihodnost

ABSTRACT

Whenever we talk about Ljubljana's Institute of Occupational Medicine, we always end up talking about occupational medicine throughout Slovenia. The institute has always been associated with peripheral centers, and some clinics have served as its branches.

Thanks for this go to the vision of its founder, Samo Modic, who founded not only the institute, but also occupational medicine as a discipline in Slovenia. This was made possible by his great vision and the support of policymakers, who made it possible for him to officially carry out the idea. Special mention must also be

made regarding the development of occupational medicine clinics, which were deployed in a network throughout Slovenia and, of course, occupational health offices, to which some countries ascribe great importance. Occupational medicine clinics were set up regionally, and larger factories hosted occupational health offices, which worked curatively and sometimes also preventively.

Until the mid-1980s, the institute was also an education center for occupational, traffic, and sports medicine specialists, as well as for registered nurses, who were offered excellent graduate-level training in occupational medicine.

Areas not covered by the institute itself were innovatively developed by associates and colleagues at remote clinics and research institutes. One example was its cooperation with Janko Sušnik, an outstanding occupational physiologist. The institute has also served as a center for research in occupational medicine and also environmental medicine. Special attention has been dedicated to considering the health of workers and their workloads, studying the consequences of severe environmental pollution such as PCBs in Bela krajina, close cooperation with colleagues researching the effects of mercury and lead, and offering countless risk assessments and expertise for high-risk workplaces. The Sports Medicine Center, which has always led a somewhat independent existence due to its specialized work, has welcomed top athletes when they were injured or when they needed a pre-competition checkup. All of these efforts at the institute created solid developmental foundations, which serve as the basis for the ongoing development of occupational and sports health, interdisciplinarity, education, and research.

A turning point in the institute's development certainly took place between 1990 and 2000, when political arguments were put forward that occupational medicine as a specialization should be erased, because it was "socialistic medicine."

The new turning point came in 1999, when Slovenia adopted a new Health and Safety at Work Act, which the Institute helped draft. Sušnik even became a National Council member to help implement the new law. A decade of recession has had severe consequences for both the institute and occupational medicine in Slovenia. Above all, due to the lack of historical memory, all the well-laid foundations of so-called "socialistic" occupational medicine, which should actually be further developed, were undermined. The new legislation, which was brought in line with EU legislation, has forced us to adopt worse solutions in areas that we already knew quite well. In a way, we have had to start again. In the last twenty years, we have managed to expand the field of occupational medicine to occupational health, added a center for health promotion to the institute, and, above all, encouraged education and graduate studies. In these twenty years, we have

Keywords:

Institute of Occupational,
Traffic, and Sports Medicine,
Samo Modic, Janko Sušnik, goals in
the years ahead

earned twelve PhDs, managed to obtain research funds, and finally brought the entire Institute of Occupational, Traffic, and Sports Medicine under the same, new roof. All in all, working conditions are undoubtedly better. We are closely connected with the Slovenian Medical Chamber and its specialization coordinator, and in recent years we have been cooperating professionally and academically with the ministries of labor and health. Our teachers advocate and raise awareness about safety and health at work at various schools. Certainly, our greatest unfinished business remains the legislative failure to recognize occupational diseases in Slovenia and to establish an independent research area that would be dedicated only to health and safety at work at the Slovenian Research Foundation. These are our goals in the years ahead.

POGLED NAPREJ: LEKCIJE IZ PANDEMIJE ZA ZDRAVJE NA DELOVNEM MESTU

LOOKING AHEAD: LESSONS FROM THE PANDEMIC FOR OCCUPATIONAL HEALTH

David Kriebel, ScD, Professor Emeritus

University of Massachusetts Lowell, Lowell, MA, USA

david_kriebel@uml.edu

IZHODIŠČE

Vplivi pandemije covida-19 na zdravje so ogromni in najverjetneje je še pre zgodaj, da bi lahko v celoti razumeli stanje javnega zdravja v postpandemičnem svetu. Kljub temu so v prispevku predstavljene nekatere začetne lekcije za zdravje na delovnem mestu, ki smo se jih lahko naučili iz prvih dveh let pandemije in se bodo, upam, izkazale za uporabne na konferenci ob 50. obletnici Kliničnega inštituta za medicino dela, prometa in športa.

IZSLEDKI

Zdravje na delovnem mestu je bilo v več pogledih v samem središču pandemije. Javnost se je nenadoma začela zavedati tveganj, ki so jim na delovnem mestu izpostavljeni zdravstveni delavci in drugi delavci, ki so del nujne infrastrukture. Osebna varovalna oprema je prav tako postala pogost predmet javnih razprav. Pojavile so se tudi nove različice že znanih razprav; različna mnenja o tem, kaj opredeljuje primer poklicne bolezni covida-19, so na primer spominjala na dolgoletna nesoglasja glede poklicnega raka, astme itd. Nujna potreba po napotkih strokovnjakov s področja zdravja pri delu glede vprašanj, kot je preprečevanje okužb, je izpostavila pomembne omejitve v načinu sintetiziranja in tolmačenja znanstvenih dokazov za oblikovanje priporočil glede politike. Formalne sisteme sintetiziranja dokazov zdaj na veliko uporabljajo nacionalni in mednarodni organi, kot je Svetovna zdravstvena organizacija. Čeprav navedene metode zagotavljajo transparentnost in preprečujejo pristranskost, so počasne in slabo prilagojene izrednim razmeram na področju javnega zdravja, ko je za sintezo na razpolago zelo malo kakovostnih dokazov. Številne verodostojne študije so Svetovni zdravstveni organizaciji in podobnim organom očitale, da na začetku pandemije niso uporabile načela previdnosti.

Ključne besede:

covid-19, zdravje pri delu, sinteza dokazov, načelo previdnosti

RAZPRAVA

Strokovnjaki s področja zdravja pri delu si pogosto prizadevajo, da bi jih priznali kot ključen del zdravstvenega sistema. Pandemija bolezni covid-19 je morda prispevala k večjemu zavedanju o pomenu zdravja pri delu. Da bi lahko čim bolj izkoristili ta izboljšani položaj, moramo druge v zdravstvu in zdravstveni politiki izobraziti o ključnih razlikah med razpoložljivimi znanstvenimi dokazi (opazovalne študije, ne randomizirane raziskave) ter pomenu jasne prepoznave in uporabe etičnih standardov, kot je previdnostno načelo, pri sintezi znanstvenih dokazov in njihovi uporabi v obliki napotkov za oblikovanje politike javnega zdravja.

BACKGROUND

The impacts of the COVID-19 pandemic on health have been enormous, and it is perhaps too soon to fully appreciate the complete picture of public health in the post-pandemic world. Nevertheless, I will draw some preliminary lessons for occupational health from the first 2 years of the pandemic that will hopefully be useful in this conference celebrating 50 years of the Institute of Occupational, Traffic, and Sports Medicine.

FINDINGS

Occupational health has been at the epicenter of the pandemic in so many ways. The public was suddenly made aware of the occupational health risks to medical and other "essential" workers. Personal protective equipment similarly became a highly public topic of debate. There were also new versions of old debates; for example, disagreements over what defines an occupational case of COVID-19 were reminiscent of long-standing conflicts over occupational cancers, asthma, and so on. The urgent need for guidance from occupational health professionals on issues like infection prevention highlighted important limitations in the ways that evidence is synthesized and interpreted for policy recommendations. Formal systems of evidence synthesis are now widely used by national and international authorities such as the World Health Organization (WHO). While these methods can ensure transparency and avoid biases, they are slow and not well-adapted to public health emergencies, when there is very little high-quality evidence to synthesize. There have been a number of authoritative reviews of the pandemic performance of the WHO and similar bodies, which faulted them for not using the precautionary principle in the early days of the pandemic.

DISCUSSION

Occupational health professionals have often struggled to be recognized as an essential part of healthcare systems. The COVID-19 pandemic may have increased the visibility of occupational health. In order to capitalize on this improved status, we must educate others in healthcare and health policy about critical differences in the kinds of scientific evidence available (observational studies, not randomized trials) and the importance of explicitly recognizing and applying ethical standards, like the precautionary principle, when scientific evidence is synthesized and applied to public health policy guidance.

Keywords:

COVID-19, occupational health, evidence synthesis, precautionary principle

KAKO MERITI IZPOSTAVLJENOST NANODELCEM PRI DELAVCIH: PREGLED

HOW TO BIOMONITOR EXPOSURE TO NANOPARTICLES IN WORKERS: A REVIEW

**prof. Daniela Pelclova, PhD¹, Vladimir Zdimal, PhD²,
Andrea Rossnerova, PhD³**

¹ Charles University and General University Hospital in Prague,
Department of Occupational Medicine, Prague, Czech Republic

² Institute of Chemical Process Fundamentals, CAS, Prague, Czech Republic

³ Department of Genetic Toxicology and Epigenetics,
Institute of Experimental Medicine, Prague, Czech Republic
daniela@pelclova.cz

IZHODIŠČE

V praksi primanjkuje smernic za biomonitoring posledic izpostavljenosti nanodelcem pri delavcih. Kljub hitro rastočemu številu izpostavljenih delavcev so raziskave človekove izpostavljenosti nanodelcem zelo redke. Eksperimentalni podatki kažejo, da posledice vključujejo oksidativni stres in poškodbe celic. Zlasti malo je znanega o kompleksnih mešanica nanodelcev in njihovih povezavah z dolgotrajno izpostavljenostjo, fizičnim stresom in življenjskim slogom.

Zadnjih deset let je naša ekipa proučevala oksidativni stres in vnetne markerje pri različnih skupinah izpostavljenih delavcev. Izpostavljenost aerosolu smo spremljali pri naslednjih delovnih procesih: obdelavi titanovega dioksida (2012 in 2013), proizvodnji pigmentov železovega oksida (2013) in raziskavah nanodelcev, vključno z varjenjem in strojno obdelavo nanokompozitov (2016, 2017, 2018, 2019 in 2020). Poleg tega smo proučevali tudi pisarniške delavce, ki so bili nanodelcem izpostavljeni kratek čas (2013), in primerjalne kontrolne skupine neizpostavljenih delavcev (2012–2020).

IZSLEDKI

Skupna koncentracija nanodelcev je znašala od $1,98 \times 10^4$ do $5,4 \times 10^5/\text{cm}^3$, izmerjena vsebnost nanodelcev pa je bila med 40 in 96 %. Z uporabo tekočinske kromatografije s tandemsko masno spektrometrijo (LC-ESI-MS/MS) so bili v kondenzatu izdihanega zraka, plazmi in urinu analizirani različni biomarkerji oksidativnih poškodb lipidov, nukleinskih kislin in beljakovin: malondialdehid, 4-hidroksi-trans-heksenal, 4-hidroksi-trans-nonenal, aldehidi C6-C13, 8-izoprostaglandin-F2 α , 8-hidroksi-2-deoksigvanozin, 8-hidroksigvanozin, 5-hidroksimetil uracil,

o-tirozin, 3-klorotirozin in 3-nitrotirozin. Med vnetnimi markerji sta bila uporabljena levkotrien B4 in faktor tumorske nekroze. Leta 2019 in 2020 smo spektrofotometrično merili skupno antioksidativno kapaciteto kodenzata izdihanega zraka, plazme in urina na podlagi sposobnosti plazme za redukcijo železa (FRAP) in reducirane oblike glutationa (GSH). V primerjavi s kontrolno skupino so bili pri proučevanih vzorcih delavcev markerji oksidacije nukleinskih kislin in beljakovin povišani že pred začetkom izmene ($p < 0,05$).

RAZPRAVA

Podatke smo primerjali z ugotovitvami drugih raziskav, pri čemer so se markerji oksidativnega stresa v kondenzatu izdihanega zraka in plazmi, merjeni z LC-ESI-MS/MS, ujemali z našimi rezultati. Pokazali so povišano vrednost markerjev po končani izmeni, medtem ko so se urinski markerji po navadi povišali šele po 24 urah. Markerji oksidativnega stresa v vseh treh proučevanih bioloških tekočinah kažejo akutno izpostavljenost (v vseh izmenah) in tudi kronične posledice izpostavljenosti. Poleg tega so se po dolgotrajni izpostavljenosti nanodelcem poslabšali tudi rezultati spirometrije. Merjenje FRAP in GSH se je izkazalo za manj občutljivo, kar je najverjetneje posledica vpliva dnevne variacije in zaužitja obrokov na rezultate merjenja izpostavljenosti nanodelcem.

Ključne besede:
nanodelci, izpostavljenost na delovnem mestu, biomonitoring, kondenzat izdihanega zraka, oksidativni stres

BACKGROUND

In practice, there is a lack of guidance for biomonitoring the effects of worker exposure to nanoparticles. Despite the rapidly growing number of exposed individuals, studies of human exposure to nanoparticles are extremely rare. However, experimental data suggest oxidative stress and cellular damage. Particularly little is known about complex mixtures of nanoparticles and their interactions with long-term exposure, physical stress, and lifestyle.

Over the past 10 years, our group has studied oxidative stress and inflammatory markers in different exposed groups of workers. Aerosol exposure has been monitored during work operations: nanoTiO₂ (2012 and 2013), Fe oxide pigment manufacturing (2013), and nanomaterials research, including welding and nanocomposite machining (2016, 2017, 2018, 2019, and 2020). Briefly exposed office workers (2013) and unexposed comparison controls were also studied (2012–2020).

FINDINGS

Total particle number concentration ranged from 1.98×10^4 to $5.4 \times 10^5/\text{cm}^3$ and nanoparticle content was 40–96%. Panels of oxidative stress biomarkers of lipids, nucleic acids, and protein damage were analyzed in exhaled breath condensate (EBC), plasma, and urine by LC-ESI-MS /MS: Malondialdehyde, 4-hydroxy-trans-hexenal, 4-hydroxy-trans-nonanal, aldehydes C₆-C₁₃, 8-isoProstaglandinF2 α , 8-hydroxy-2-deoxyguanosine, 8-hydroxyguanosine, 5-hydroxymethyl uracil; o-tyrosine, 3-chlorotyrosine, and 3-nitrotyrosine. Among inflammatory markers, leukotriene B₄ and tumor necrosis factor were used. In 2019 and 2020, total antioxidant capacity in EBC, plasma, and urine was measured spectrophotometrically using ferric reducing ability of plasma (FRAP) and reduced glutathione (GSH). Markers of nucleic acid and protein oxidation were already elevated in pre-shift samples ($p < 0.05$) of workers compared to controls.

DISCUSSION

Our data were compared with studies by other investigators, whose EBC and plasma markers of oxidative stress measured by sensitive LC-ESI-MS /MS agreed with our data. They showed an increase after the shift, in contrast to urinary markers, which usually increased 24 hours later. Oxidative stress markers in all three biological fluids studied reflected both acute exposure (cross-shift) and chronic effects of exposure. In addition, impairment of spirometry was detected after long-term exposure to nanoparticles. Detection of FRAP and GSH appeared to be less sensitive, likely reflecting diurnal variations and meal intake that may interact with nanoparticle exposure results.

Keywords:

nanoparticles, occupational exposure, biomonitoring, exhaled breath condensate, oxidative stress

VLOGA ZDRAVNIKOV SPECIALISTOV MEDICINE DELA PRI KRIZNEM UPRAVLJANJU: LEKCIJE, NAUČENE MED PANDEMIJO COVID-19

THE ROLE OF THE OCCUPATIONAL HEALTH PHYSICIAN IN CRISIS MANAGEMENT: LESSONS LEARNED DURING THE COVID-19 PANDEMIC

prof. Petar Bulat, PhD^{1,2}, Stefan Mandić-Rajčević, PhD¹

¹ *University of Belgrade, Faculty of Medicine, Belgrade, Serbia*

² *Serbian Institute of Occupational Health, Belgrade, Serbia*

petar.bulat@med.bg.ac.rs

POVZETEK

Krizno upravljanje je za vsakega menedžerja zahtevna naloga. Izobraževanje na področju menedžmenta po navadi vključuje več tem, povezanih s splošnimi načeli kriznega upravljanja, pri čemer je poudarek na gospodarski krizi in varnostnih vprašanjih. Pandemija covid-19 je povzročila krizo javnega zdravja, ki je imela več vidikov (zdravstvenega, gospodarskega, socialnega, političnega itd.). Upravljanje tovrstne krize zato zahteva veliko širši pristop in posebna znanja. Večina organizacij je pri spopadanju s pandemijo covid-19 prepoznala potrebo po multidisciplinarnem pristopu in je zato ustanovila skupine za krizno upravljanje. Njihova sestava v srednje velikih in velikih podjetjih je bila odvisna od gospodarske dejavnosti podjetja. Večinoma so vključevale generalnega direktorja in predstavnike kadrovske službe, oddelka nabave, logističnega oddelka, varnostne službe ipd. Na žalost med njimi običajno ni bilo zdravnikov specialistov medicine dela. Naslednji korak pri kriznem upravljanju je oblikovanje akcijskega načrta, v katerem se določijo najpomembnejši procesi za preživetje organizacije in razpoložljivi viri za njihovo izvedbo. Pri covidni krizi je treba zaradi velike verjetnosti okužb med člani krizne skupine za vsakega člana imenovati in usposobiti vsaj enega namestnika. Načrt upravljanja krize mora vsebovati razdelek o notranji in zunanji komunikaciji, tj. tako med člani krizne skupine kot med krizno skupino in zaposlenimi ali javnostjo. Pomemben del načrta je stalno spremljanje njegovega izvajanja in prilagajanje njegove vsebine dejanskemu stanju. Zaradi splošnega nepoznavanja strokovnih znanj zdravnikov specialistov medicine dela v naši

Ključne besede:

varnost in zdravje pri delu, krizno upravljanje, pandemija covid-19, pripravljenost na nesreče

družbi se je pri spopadanju s pandemijo covid-19 le malo podjetij obrnilo po pomoč nanje, kar je pripeljalo do nepotrebne izgube življenj in zdravja ter drugih negativnih posledic. Zdravniki specialisti medicine dela bi morali imeti ključno vlogo v krizni skupini, saj dobro poznajo najpomembnejše procese v podjetjih, hkrati pa so strokovnjaki s področja varnosti in zdravja pri delu. S pravočasnimi pripravami in ustreznimi odločitvami lahko podjetja uspešno poslujejo tudi med krizo na področju javnega zdravja.

ABSTRACT

Crisis management is a challenging task for every manager. Managerial education usually includes several topics related to general crisis management principles, with a focus on economic crisis and security issues. The crisis caused by the COVID-19 pandemic is a public health crisis. It has many different aspects: health, economic, social, political, and others. Managing such a crisis thus demands a much broader approach and specific knowledge and skills. Most organizations recognized the need for a multidisciplinary approach in dealing with the COVID-19 pandemic and therefore established crisis management teams. The composition of the COVID-19 crisis management teams at medium-sized and large enterprises depended on their areas of economic activity. In most cases it consisted of the general director and representatives from human resources, procurement, logistics, security, and so on. Unfortunately, occupational health physicians were not a standard part of that team. The next step in crisis management is to develop an action plan that identifies vital processes for the survival of the organization and the resources available to maintain it. Considering the COVID-19 crisis, and the high probability of infection among the members of the crisis management team, it is necessary to appoint and train at least one deputy member for each team member. The management plan must contain a section dealing with internal and external communication, both between the crisis management team and between the team and the employees or the public. One of the important parts of the plan is constant monitoring of plan execution and reviewing the plan according to the actual situation. Due to the general lack of understanding of the specific expertise of occupational health physicians in our societies, few enterprises sought their support in managing the COVID-19 epidemic, resulting in unnecessary loss of life, health, and other resources. The occupational health physician should play one of the crucial roles in the crisis management team, by understanding both the vital processes in the company and health and safety at work. Early preparation and sustainable decisions will enable a company to continue functioning and thrive, even during a public health crisis.

Keywords:

occupational health and safety, crisis management, COVID-19 pandemic, disaster preparedness

VODENJE KORONAVIRUSNE BOLEZI NA DELOVNEM MESTU V ITALIJI

COVID MANAGEMENT IN THE WORKPLACE IN ITALY

Alessia Angelini¹, Lucia Miligi, PhD¹, Stefano Silvestri, PhD²

¹ *Institute for Cancer Research, Prevention and Clinical Network (ISPRO), Florence, Italy*

² *University of Eastern Piedmont, Italy
a.angelini@ispro.toscana.it*

IZHODIŠČE

Italija je bila prva evropska država, v kateri se je začela širiti bolezen covid-19, pri čemer so se okužbe s severa hitro širile v druge regije. Načrt zaščite in reševanja ob pojavu pandemije v okviru državnega zdravstvenega sistema je bil nazadnje posodobljen leta 2004, pri čemer se je izkazalo, da je program preventive vseboval številne pomanjkljivosti. Potem ko je Svetovna zdravstvena organizacija 30. januarja 2020 razglasila pandemijo, je tudi italijanska vlada razglasila izredne razmere, pri čemer si je dodelila posebna pooblastila glede sprejemanja izrednih odlokov in njihovega takojšnjega izvajanja.

METODE

V skladu z izkušnjami iz preteklosti je bil prvi ukrep popolno zaprtje družbe. Vse dejavnosti razen najnujnejših so bile zaustavljene in izdana so bila navodila vedenja na prostem, ki so vsem razen dnevnim migrantom omejevala gibanje.

IZSLEDKI

Do februarja 2022 je bilo na delovnem mestu s covidom okuženih 229.037 ljudi, od katerih jih je 835 (0,36 %) umrlo. V zdravstvu je bilo okuženih 145.896 delavcev, 180 (0,12 %) jih je umrlo. V drugih dejavnostih je bilo 83.141 okužb in 655 (0,78 %) smrti. Vrh prvega vala pandemije je bil dosežen marca 2020, nato pa se je število okužb umirilo, čeprav število smrti ni upadalo vzporedno z okužbami. Do decembra, ko se je začelo cepljenje, je bilo doseženih še več zaporednih vrhov. Cepljenje je bilo najprej obvezno samo za nekatere kategorije delavcev, vključno za vse zaposlene v zdravstvu. Necepljeni niso smeli hoditi na delo, poleg tega je bila zanje predvidena tudi zaustavitev izplačila plač.

RAZPRAVA

Na začetku je do večine okužb v zdravstvu prišlo na delovnih mestih, kjer je bila zabeležena visoka stopnja umrljivosti bolnikov in zdravstvenih delavcev. V šolstvu je bil takoj uveden pouk na daljavo. Celoten javni sektor je začel delati od doma oziroma »pametno«. Javni promet je prispeval k širjenju virusa, nato pa so bili sprejeti omejevalni ukrepi, ki so zmanjšali pogostost voženj in število potnikov. Sodstvo je za nekaj mesecev popolnoma prenehalo delovati, izjema so bili samo nujni primeri. Nekateri proizvodni obrati so se za vedno zaprli, drugi pa so sprejeli regulativne ukrepe za zajezitev okužb na delovnem mestu. Brezposelnim je bila posledično dodeljena državna socialna pomoč. V neapeljski bolnišnici Cotugno so zaradi preteklih izkušenj s pandemijo kolere, sarsa in ebole sprejeli takojšnje ukrepe za preprečevanje širjenja okužb. Posledično se ni okužil noben zdravstveni delavec. Sprejeti ukrepi so bili podobni tistim, ki se jih morajo držati delavci, ki odstranjujejo azbestno kritino.

Ključne besede:

covid-19, delovno mesto, okužba, ukrepi

BACKGROUND

Italy was the first European country where the COVID-19 infection spread, rapidly moving from Northern Italy to other regions. The National Health System had a pandemic plan updated to 2004, which highlighted many flaws in the prevention program. Following the WHO alarm on January 30th, 2020, the Italian government declared a state of emergency, assigning special powers to the government regarding the issuance of urgent decrees and their immediate enforcement.

METHODS

Based on past experience, the first measure was the lockdown. All activities, excluding primary necessities, were closed and outdoor behavioral rules for meeting primary needs were issued, limiting spatial movements except for commuters.

FINDINGS

COVID-19 infections in workplaces totaled 229,037 by the end of February 2020, and 835 (0.36%) of these people died. The healthcare system recorded 145,896 infections and 180 deaths (0.12%). Other activities recorded 83,141 infections and 655 deaths (0.78%). There was a first pandemic peak in March 2020, followed by a stabilization of infections, although the number of deaths did not follow in parallel. Other pandemic peaks followed one another in succession until December 2020, when the vaccination campaign began. It started out as mandatory for some categories of workers, such as those working in the overall healthcare and caregiving system. Unvaccinated workers were not able to access the workplace and the suspension of wages was also proposed.

DISCUSSION

Most infections initially occurred in healthcare and caregiving workplaces, where a high mortality rate of patients and health workers was recorded. The education sector immediately adopted remote teaching. The entire public administration sector began working remotely. Public transport contributed to the spread of the virus before restrictive measures were taken that reduced the frequency of rides and number of passengers. Legal proceedings completely stopped for few months, with the exception of emergency measures. Some production activities were permanently halted and others adopted regulatory measures aimed at reducing transmission at work. Consequently, the unemployed workers benefited from the state social safety nets. The experience of Cotugno Hospital in Naples should be acknowledged for its adoption of immediate control measures due to their past experience with epidemics of cholera, SARS, and Ebola. Not one health worker was infected. These measures have some overlap with those of asbestos remediation workers.

Keywords:

COVID-19, workplace, contamination, measures

ZAGOTAVLJANJE UČINKOVITEGA VEDENJA - IZZIV OD ČASA AVTOMATIZACIJE DO ČASA UMETNE INTELIGENCE

ENSURING EFFECTIVE BEHAVIOR: A CHALLENGE FROM THE TIME OF AUTOMATION TO THE TIME OF ARTIFICIAL INTELLIGENCE

doc. dr. Marija Molan

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
marija.molan@kclj.si*

IZHODIŠČE

50 let KIMDPŠ z njegovo vlogo varovanja zdravja sovpada z intenzivnim tehnološkim razvojem, nastopom avtomatizacije in vstopom umetne inteligence v delovno okolje.

RAZPRAVA

Istočasno z razvojem avtomatizacije kompleksnih sistemov so se začele razvijati tudi metode za analizo vzrokov nesreč in neobičajnih dogodkov. Analize velikih nesreč, kot so bili Černobil, Otok treh milj ali Seveso, so pokazale pomemben vpliv človekovega vedenja na učinkovito in varno delovanje vsakega sistema. S tehnološkim razvojem so se razvijali tudi postopki analiz in postajali del dobrih praks. Tako so analize štirih velikih nesreč po letu 2000 v različnih vejah prometa pokazale odločilen vpliv človekovih osebnostnih značilnosti na vedenje v konkretni situaciji. Vse bolj jasno je bilo, da niso pomembne le sposobnosti, temveč ima zelo velik vpliv tudi osebnostna struktura in podoba o sebi.

Model analize vzrokov vedenja je identificiral osebnostne lastnosti, ki so privedle do vedenja, ki je povzročilo nesreče. Hkrati pa je identificiral tudi možne ukrepe, ki bi lahko preprečili nesrečo. Tako je nastalo orodje, ki ga je mogoče uporabiti za zagotavljanje učinkovitega vedenja in varnosti v vsakem sistemu. Tehnološki razvoj se je nadaljeval z vse večjim deležem avtomatizacije, v delovno okolje je začela vstopati tudi umetna inteligenca.

Gradnja sistemov na osnovi umetne inteligence omogoča učinkovito delovanje z vgradnjo varoval, ki naj bi preprečila človekovo neučinkovito ali napačno vedenje. Novi učinkoviti sistemi izkoriščajo zmogljivosti umetne inteligence za hitro in pravilno zaznavo in prepoznavo. So zelo učinkoviti in uporabni v predvidljivih in že znanih situacijah. V večini sistemov lahko človek še vedno prevzame odločujočo vlogo na osnovi svoje presoje in tako še vedno ohranja aktivno vlogo.

ZAKLJUČEK

Umetna inteligenca z vsemi pomagali nudi učinkovito pomoč, ki jo mora človek znati upoštevati in uporabiti. Ne sme se je bati ali je doživljati kot konkurenco. Človeku ostaja njegova odločilna funkcija, ki je predvsem določena z doživljanjem lastne razpoložljivosti. Človekova osebnost, motivacija, vrednote in kompetence imajo pomembno vlogo, ki je umetna inteligenca še ni nadomestila.

Odrta ostaja dilema: »Ali je sedanja vloga umetne inteligence zadostno varovala za preprečevanje človekovih neumnosti in napak, ali pa bo potrebno prepustiti inteligentnim sistemom tudi samostojno funkcioniranje? In kje je potem človek?«

Ključne besede:

človekovo vedenje, orodja za analizo vzrokov, umetna inteligenca, razpoložljivost, osebnost

BACKGROUND

In its 50-year history of protecting health, the Institute of Occupational, Traffic, and Sports Medicine has experienced intensive technological development, the advent of automation, and the entry of artificial intelligence into the work environment.

DISCUSSION

Methods for analyzing causes of accidents and unusual events began to be developed in parallel with the automation of complex systems. Analyses of major disasters such as Chernobyl, Three Mile Island, and Seveso showed the significant impact of human behavior on the effective and safe operation of any system. As technology has evolved, analytical procedures have also evolved and become part of good practice. Thus, analyses of four major accidents since 2000 in various transport modes showed the key influence of human personality traits on behavior in specific situations. It has become increasingly clear that it is not only abilities that are important, but that personality structure and self-image also have a very strong influence.

The behavior causation analysis model identified the personality traits that led to the behaviors that caused the accidents. At the same time, it identified possible actions that could have prevented the accident. Thus, a tool was created that can be used to ensure effective behavior and safety in any system. Technological development has continued with an increasing share of automation, and artificial intelligence has also started to enter the work environment.

Building systems based on artificial intelligence allows for effective operations with inbuilt safety features that are meant to prevent ineffective or erroneous human behavior. New, effective systems use the power of artificial intelligence for rapid and accurate detection and recognition. They are very effective and useful in predictable and already-known situations. In most systems, a human being can still take over the decisive role according to his own judgement and thus maintain an active role.

CONCLUSION

Artificial intelligence, with all its aids, offers effective help that humans need to know how to follow and use. It should not be feared or perceived as competition. Humans retain their decisive function, which is determined above all by their experience of their own availability. Human personalities, motivation, values, and skills play an important role that has not yet been replaced by artificial intelligence. The following question remains open: "Does the current role of artificial intelligence offer adequate protection from human shortcomings and mistakes, or will it become necessary to let intelligent systems function independently? And what would become of humans then?"

Keywords:

human behavior, causation analysis tools, artificial intelligence, availability, personality

DOSEŽKI NA PODROČJU SODOBNEGA DIGITALNEGA PSIHOLOŠKEGA TESTIRANJA

DEVELOPMENTS AND ACHIEVEMENTS IN MODERN DIGITAL PSYCHOLOGICAL ASSESSMENT

Thomas Eberhartl, MBA

SCHUHFRIED GmbH, Vienna, Austria

thomas.eberhartl@schuhfried.com

POVZETEK

Digitalni psihološki testi so najprej temeljili na načelih klasičnih testov na papirju, sodobni tehnološki dosežki pa so omogočili uporabo najrazličnejših novih aplikacij, ki so v psihološki diagnostiki že postale nepogrešljive, zlasti zaradi pandemije covid-19. Sodobna tehnologija poleg tega omogoča neštete priložnosti za izboljšanje kakovosti in uporabnosti psiholoških testov. Prispevek vsebuje pregled trendov in dosežkov na področju sodobne tehnologije in psihometrije, vključno z novimi načini testiranja in možnostmi, ki jih ponuja napredna psihometrija.

Ključne besede:

digitalizacija, psihološko testiranje, tehnološki trendi, načini testiranja, napredna psihometrija

ABSTRACT

Digital psychological assessments were originally based on the principles of classic paper-and-pencil tests. However, modern technological developments allow for a host of new applications, which have now become invaluable in the field of psychological diagnostics, not least due to the COVID-19 pandemic. Trends in modern technology also offer countless opportunities to further improve the quality and usability of psychological testing. This presentation will provide an overview and insight into the trends and developments in both technology and psychometrics, including new test settings, test presentations, and the possibilities of advanced psychometrics.

Keywords:

digitalization, psychological assessment, technical trends, test settings, advanced psychometrics

INTERDISCIPLINARNI PRISTOP PRI OBRAVNAVI ŠPORTNIKA

AN INTERDISCIPLINARY APPROACH TO TREATING ATHLETES

Gregor Kavaš

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
gregor.kavas@kclj.si*

IZHODIŠČE

V sklopu preventivnega zdravstvenega varstva športnika je za kakovostno in celovito obravnavo pomemben interdisciplinarni pristop.

RAZPRAVA

Pri interdisciplinarnosti gre za sodelovanje različnih deležnikov, katerih cilj je rešitev določenega problema. Namen preventivnega zdravstvenega varstva športnika je preprečevanje oz. zgodnje odkrivanje patoloških sprememb, ki bi lahko negativno vplivale na varno ukvarjanje s športom. Specialist medicine dela, prometa in športa pri obravnavi športnika lahko sodeluje z zdravniki različnih specialnosti in tudi drugimi deležniki, kot so fizioterapevt, kineziolog, športni psiholog, dietetik in športni trener ter s tem zagotovi kakovostno in celovito obravnavo. Zdravniki različnih specialnosti nudijo športniku ustrezno nadaljnjo diagnostično obravnavo. Fizioterapevt izvaja postopke, pri katerih sta gibanje in funkcijska sposobnost športnika obravnavana glede na različne okoliščine. Kineziolog se ukvarja predvsem s proučevanjem gibanja z biomehanskega, psihološkega in fiziološkega vidika ter skrbi pri razvoju telesnih in gibalnih sposobnosti športnika. Športni psiholog ugotavlja psihična tveganja, ki so posledica dejavnikov športa ter psihosocialnih in razvojnih dejavnikov športnika. Na podlagi ugotovitev neugodnih učinkov na psihično zdravje športnika ustrezno ukrepa. Dietetik ocenjuje prehranjevalne navade in prehransko stanje športnika ter skrbi za zagotavljanje prehransko ustrezne in kakovostne hrane. Športni trener s svojim znanjem in izkušnjami ustrezno prilagodi proces treniranja.

ZAKLJUČEK

Specialist medicine dela, prometa in športa uporablja interdisciplinarni pristop, kjer s sodelovanjem z različnimi deležniki zagotavlja kakovostno in celovito obravnavo športnika.

Ključne besede:

športnik, interdisciplinarnost, sodelovanje

BACKGROUND

An interdisciplinary approach is vital for high-quality and comprehensive treatment of athletes as part of their preventive healthcare.

DISCUSSION

Interdisciplinarity involves cooperation between various specialists to resolve a specific problem. The purpose of preventive healthcare for athletes is to prevent or promptly detect any pathological changes that might affect the athletes' safe engagement in sports. Physicians specializing in occupational, traffic, and sports medicine can work together with various medical specialists and other professions, such as physical therapists, kinesiologists, sport psychologists, dieticians, and coaches, to ensure high-quality and comprehensive treatment. Various medical specialists provide athletes appropriate further diagnostic treatment. Physical therapists perform procedures in which they examine the athlete's movement and functional abilities under various circumstances. Kinesiologists primarily focus on examining body movement from the biomechanical, psychological, and physiological perspectives, monitoring the development of the athlete's physical abilities and motor skills. Sport psychologists determine the psychological risks resulting from sport-related, psychosocial, and developmental factors in athletes. When negative effects on the athlete's mental health are identified, they take appropriate action. Dieticians evaluate the athletes' eating habits and nutritional status and ensure that they eat appropriate and high-quality food. Coaches make appropriate adaptations to the training process based on their expertise and experience.

CONCLUSION

Physicians specializing in occupational, traffic, and sports medicine use an interdisciplinary approach to provide athletes high-quality and comprehensive treatment by working together with various other specialists.

Keywords:
athlete, interdisciplinarity,
cooperation

NA IZKUŠNJAH PRETEKLOSTI K UČINKOVITEJŠI PROMOCIJI ZDRAVJA PRI DELU

LEARNING FROM THE PAST TO ACHIEVE MORE EFFECTIVE WORKPLACE HEALTH PROMOTION

dr. Eva Stergar, Tanja Urdih Lazar

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
eva.stergar@guest.arnes.si*

IZHODIŠČE

Zgodovina javnega zdravja in promocije zdravja (pri delu) v kombinaciji z izkušnjami tridesetletnega dela ponujajo izhodišča in priporočila za učinkovito delo na področju promocije zdravja pri delu (PZD). Zdravje je v promociji zdravja opredeljeno na podlagi biopsihosocialnega modela. Ottawska listina kot krovni dokument povzema ključna torišča promocije zdravja pri delu, ki obsegajo usklajeno delo na petih področjih: zdravje zaposlenih kot strateški cilj, oblikovanje in vzdrževanje podpornih okolij za zdravje, izobraževanje zaposlenih na področju zdravja, sodelovanje z izbranim specialistom MDPŠ in s strokovnim delavcem za zdravje in varnost pri delu ter vpetost v širšo skupnost.

RAZPRAVA

Kakovostni in učinkoviti programi PZD celovito naslavljajo dejavnike, povezane z zdravjem, pri delu vseh zaposlenih. Temeljijo na podatkih o zdravju in okoliščinah, ki vplivajo na zdravje, in so skrbno načrtovani ter evalvirani, kombinirajo pristope za spremembe na organizacijski in individualni ravni. PZD je integrirana v vse pomembne odločitve na ravni podjetja/organizacije/ustanove ter je v tesni povezavi s področjem varnosti pri delu. Izvajanje aktivnosti v okviru PZD poteka sistematično in usklajeno. Pri PZD je pomembna podpora vodij, ki »odpirajo vrata« pobudam za boljše zdravje in večjo varnost zaposlenih, jim omogočajo materialno in kadrovske podlage, delujejo kot zgled ter sporočajo vizijo organizacije, v kateri imata zdravje in varnost bistveno vlogo. Za PZD je značilen pozitiven pristop. Ključne vrednote so: spoštovanje, pravičnost, opolnomočanje in vključevanje. Pri načrtovanju programov PZD se prepletajo spoznanja mnogih ved in različnih pristopov. Ukrepi pogosto segajo preko meja posameznih resorjev. Zdravje kot dinamično ravnotežje telesa, duševnosti in vključenosti v družbo predstavlja skoraj neskončno področje za konkretne dejavnosti v smeri preventive oz. vzdrževanja

obstoječega stanja, kar mora obsegati tako ukrepe za spreminjanje/prilagajanje delovnega (ali širšega življenjskega) okolja kot tudi izboljševanje z zdravjem povezanega življenjskega sloga. Pronicljivo poznavanje zdravja, determinant zdravja in izbira aktualnih problemov, povezanih z zdravjem zaposlenih, so solidna osnova za načrtovanje programov PZD.

ZAKLJUČEK

Kritični pregled obstoječe ponudbe v PZD kaže na enostransko usmerjene programe, ki večinoma temeljijo na enostavnem spreminjanju z zdravjem povezanega vedenja zaposlenih (neupoštevanje teorij socialnega učenja), prepogosto pa sta spregledani vloga podpornega okolja in podprtost s strani vodij, kar vse zmanjšuje učinkovitost programov PZD.

Ključne besede:
promocija zdravja pri delu,
načrtovanje, analiza zdravja,
učinkovitost

BACKGROUND

The history of public health and (workplace) health promotion, combined with 30 years of experience, offers the background and recommendations for effective workplace health promotion (WHP). In health promotion, "health" is defined using a biopsychosocial model. As an umbrella document, the Ottawa Charter summarizes the key focus areas of workplace health promotion, which include coordinated work in five areas: employee health as a strategic goal, the creation and maintenance of health-supportive environments, health education for employees, cooperation with the designated Institute of Occupational, Traffic, and Sports Medicine specialist and the occupational health and safety professional, and engagement with the wider community.

DISCUSSION

Quality, effective WHP programs comprehensively address factors connected with all employees' health at work. They are based on information about health and the circumstances that affect health. They are carefully planned and evaluated, combining approaches that foster changes on the organizational and individual levels. WHP is integrated into all important decision-making at the organizational level, and is tightly connected to safety at work. WHP activities are carried out in a systematic and coordinated way. Management support is important for WHP, because the management can "open the door" to initiatives that improve health and safety, offers material and human resources support, operates as a role model, and communicates that health and safety play a meaningful role in the organization's vision. WHP is characterized by a positive approach. Its key values are respect, fairness, empowerment, and inclusion. WHP program design combines insights from many disciplines and various approaches. Measures often cut across departmental boundaries. Health, as a dynamic balance

between body, mind, and social inclusion, is an almost infinite area for concrete actions towards preventive care or health maintenance, which should include both measures to change or adapt the working (or wider living) environment and to improve health-related lifestyles. An in-depth knowledge of health and health determinants, and a selection of current issues related to employee health provide a solid basis for planning WHP programs.

CONCLUSION

A critical look at current WHP programs reveals one-sided programs that are largely based on simply changing employees' health-related behavior (ignoring social learning theories), and too often overlook the role of a supportive environment and managerial support, all of which undermines the effectiveness of WHP programs.

Keywords:

workplace health promotion,
planning, health analysis,
effectiveness

ZGODNJA POKLICNA IN ZAPOSLOVNA REHABILITACIJA V PROCESU VRAČANJA NA DELO - PRELIMINARNO POROČILO PROJEKTA

EARLY OCCUPATIONAL AND EMPLOYMENT REHABILITATION WHEN RETURNING TO WORK: A PRELIMINARY PROJECT REPORT

Metka Teržan, mag. Valentina Breclj, Nuša Kerč

*Univerzitetni rehabilitacijski inštitut Republike Slovenije –
Soča, Ljubljana, Slovenija
metka.terzan@ir-rs.si*

IZHODIŠČE

Kazalniki zdravstvenega stanja aktivne populacije, predvsem bolniški stalež, se tudi v Sloveniji v zadnjih letih poslabšujejo. To se odraža v vedno večjem številu oseb v aktivni dobi življenja, ki so zaradi okvar zdravja izključene s trga dela. Podatki kažejo, da moramo tudi v naši državi pristopiti k ukrepom, to je h korenitim sistemskim spremembam na nacionalni ravni. Ministrstvo za delo, družino, socialne zadeve in enake možnosti RS (MDDSZ) je dalo pobudo za projekt, ki bi povečal obseg in vsebino poklicne rehabilitacije kot pravice po Zakonu o PIZ.

METODE

Ključni del projekta je pilotni preizkus modela celostne zgodnje poklicne in zaposlitvene rehabilitacije v procesu vračanja na delo. V projekt so v regiji Ljubljana in Celje vključeni zavarovanci, ki so v bolniškem staležu več kot 3 mesece in imajo kompleksne zdravstvene težave, ki jih ovirajo pri vračanju na delo. V procesu obravnave zavarovancev je narejena timska ocena oseb po bio-psiho-socialnem modelu. V pripravo ocene poskušamo vključiti izvajalca medicine dela pri delodajalcu konkretne osebe in izbrane izvajalce zaposlitvene rehabilitacije. V načrtu je predvideno strokovno vodenje osebe v bolniškem staležu do vrnitve na delo v polnem delovnem času na isto delovno mesto, ali pa do pridobitve pravice do poklicne rehabilitacije po Zakonu o PIZ oziroma do drugih pravic po tem zakonu.

REZULTATI

Do konca meseca aprila je bilo v projekt vključenih 96 oseb, od tega 54 moških in 45 žensk, povprečna starost je 43 let. Dobra tretjina zavarovancev ima poklicno izobrazbo (36), nekoliko manj (31) jih ima končano srednjo šolo. Glavne diagnoze so na področju mišično-skeletnega sistema (42 zavarovancev), poškodb (18) ter bolezni srca in ožilja (9). Zaključenih je 55 primerov, večina se jih postopno vrača na delo, za nekatere pa delodajalec nima ustreznega delovnega mesta, zato smo zanje predlagali obravnavo na invalidski komisiji s predlogom časovnih in fizičnih obremenitev, predhodno usklajenih z delodajalcem, ali poklicno rehabilitacijo.

ZAKLJUČKI

Pilotno testiranje je pokazalo, da sedanja sistemska ureditev področja bolniškega staleža in pravic iz invalidskega zavarovanja ne dopušča učinkovite umestitve strokovne podpore v procese vračanja na delo. V predlogih ukrepov izstopajo široke sistemske spremembe, za katere bo najprej potrebno najti družbeni in kasneje še politični konsenz. V prvi vrsti bo treba uskladiti delovanje vseh deležnikov in institucij, ki so aktivne na tem področju, s skupnimi izhodišči ter usklajenimi aktivnostmi.

Ključne besede:

poklicna rehabilitacija, vračanje na delo, bio-psiho-socialni model, bolniški stalež, invalidnost

BACKGROUND

The health indicators of Slovenia's working population, especially sick leave, have trended downward in recent years. This is seen in the increasing number of people of working age that are excluded from the labor market due to impaired health. The data indicate that Slovenia, like other countries, must take action in the form of radical systemic changes at the national level. The Ministry of Labor, Family, Social Affairs, and Equal Opportunities has initiated a project intended to increase the scope and range of occupational rehabilitation offered as a right under the Pension and Disability Insurance Act.

METHODS

The key part of the project is a pilot test of a model for integrated early occupational and employment rehabilitation in the return-to-work process. The project includes insured persons from the Ljubljana and Celje regions that have been on sick leave longer than 3 months and have complex health problems that hinder their return to work. A team assessment of each insured individual is made using the biopsychosocial model. Optimally, the occupational health provider at the person's employer and selected occupational rehabilitation providers are included in the assessment. The plan envisions professional guidance of individuals on sick leave until either their return to full-time work in the same position or their exercising the right to occupational rehabilitation according to the Pension and Disability Insurance Act, or other rights under this law.

RESULTS

The project included 96 individuals, 54 men and 45 women, as of the end of April. Their average age is 43. A good third of the insured individuals have vocational qualifications (36), and somewhat fewer (31) completed secondary school. The main diagnoses refer to the musculoskeletal system (42 individuals), injuries (18), and cardiovascular illnesses (9). A total of 55 cases have been closed. Most are gradually returning to work and for some the employer does not have a suitable job, so assessment by the Disability Commission, with suggested work time and physical demands previously coordinated with the employer, or occupational rehabilitation have been proposed for them.

CONCLUSION

The pilot testing showed that the current system for handling sick leave and disability insurance rights does not allow for effective use of professional support in the return-to-work process. The suggested measures call for broad systematic changes, for which it is first necessary to secure social consensus and, later, also political consensus. The top priority is to harmonize the operation of all stakeholders and institutions active in this area with shared starting points and coordinated activities.

Keywords:
occupational rehabilitation, return to work, biopsychosocial model, sick leave, disability

ANALIZA ZDRAVSTVENEGA STANJA DELAVCEV IZBRANIH POKLICNIH SKUPIN, VKLJUČENIH V POKLICNO ZAVAROVANJE - REZULTATI PROJEKTA PREMIK

ANALYSIS OF WORKERS' HEALTH IN SELECTED OCCUPATIONAL GROUPS COVERED BY OCCUPATIONAL INSURANCE: THE RESULTS OF THE PREMIK PROJECT

asist. Martin Kurent

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
martin.kurent@kclj.si*

IZHODIŠČE

V okviru projekta Premik smo skozi dvajsetletno obdobje (od 1997 do 2016) proučevali zdravje več kot 50 tisoč delavcev iz 12 poklicnih skupin, za katere velja poklicno zavarovanje (poklicni vojaki, delavci v policiji, poklicni vozniki, delavci v kovinski industriji, delavci v rudarstvu, železniški delavci, delavci v železarstvu, tekstilni delavci, delavci v steklarstvu, delavci v carinski službi, komunalni delavci in delavci v jedrskih in sevalnih objektih).

RAZPRAVA

Za vsako od 12 poklicnih skupin smo analizirali umrljivost, incidenco raka, hospitalizacije, bolniški stalež in invalidnost. Pri moških so se v skupino poklicev, ki so se pokazali kot najbolj tvegani, uvrstili delavci v železarstvu. Tveganje za smrt je bilo sicer pri tej skupini nižje kot v splošni populaciji (SMR = 0,90; 95% IZ = 0,74–1,08), vendar bi lahko število opazovanih smrti preseгло pričakovane, če bi upoštevali učinek zdravega delavca. Ta poklicna skupina je imela tudi skoraj 2,5-krat višje tveganje za delovno invalidnost, poleg tega pa tudi visoko frekvenco in resnost bolniškega staleža. V isto skupino ogroženosti smo uvrstili tudi delavce v steklarstvu. Pri njih je bilo tveganje za delovno invalidnost več kot dvakrat višje kot pri delovni populaciji, visoka sta tudi resnost in pogostost bolniškega staleža. Po stopnji tveganja so sledili delavci v kovinski industriji, ki so imeli za 45 % višje tveganje, da bodo postali invalidi, višji pa sta bili tudi resnost in frekvenca bolniškega staleža. V skupino z večjim tveganjem smo umestili tudi delavce v rudarstvu, ki so imeli za 34 % večje tveganje za invalidnost kot delovna populacija, kot edini pa so imeli tudi za 16 % večjo verjetnost za hospitalizacijo. Poleg tega so imeli višjo frekvenco in predvsem resnost bolniškega staleža; izstopalo je število

izgubljenih koledarskih dni. Pri drugih poklicnih skupinah s študijo nismo ugotovili zanesljivih kazalnikov, na podlagi katerih bi lahko z večjo gotovostjo ugotavljali pomembno zdravstveno ogroženost celotne skupine v opazovanem obdobju.

ZAKLJUČEK

V raziskavi smo prvič povezali podatke iz različnih baz zdravstvenih podatkov ter z uporabo enotne metodologije analizirali zdravstveno stanje več poklicnih skupin. Znotraj posamezne poklicne skupine so lahko podskupine, ki so bistveno bolj izpostavljene, kar bi bilo mogoče analizirati z dodatnimi študijami.

Ključne besede:

poklicno zavarovanje, umrljivost, rak, bolniški stalež, hospitalizacije, invalidnost

BACKGROUND

Over the course of two decades (from 1997 to 2016), the Premik project studied the health of more than 50,000 workers from 12 occupational groups covered by occupational insurance (professional soldiers, police officers, drivers, metalworkers, miners, railway workers, ironworkers, textile workers, glassworkers, customs workers, utility workers, and nuclear and radiation facility workers).

DISCUSSION

For each of the 12 occupational groups, we analyzed mortality, cancer incidence, hospitalizations, sickness leave, and disability. For men, the occupational group shown to face the greatest risk was ironworkers. Although the risk of death in this group was lower than in the general population (SMR = 0.90; 95% CI = 0.74–1.08), the number of observed deaths might have exceeded the expected number if the healthy worker effect had been taken into account. This occupational group also had almost 2.5 times the risk of work-related disability and a high frequency and severity of sick leave. Glassworkers were also classified in the same risk group. They were more than twice as likely to be disabled at work as the general working population, and the severity and frequency of sick leave was high. Metalworkers followed in terms of risk, with a 45% higher risk of becoming disabled and a higher severity and frequency of sick leave. Miners were also included in the higher-risk group, because they had a 34% higher risk of disability than the general working population and were the only ones with a 16% greater likelihood of hospitalization. In addition, they had a higher frequency and, above all, severity of sick leave; they lost an exceptional number of calendar days. The study did not identify reliable indicators for the other occupational groups that could be used with greater certainty to identify a significant health risk for the group as a whole during the observation period.

CONCLUSION

This study is the first to link data from various health databases and analyze the health status of several occupational groups using a uniform methodology. Within each occupational group there may be subgroups that are significantly more exposed, which could be analyzed by additional studies.

Keywords:

occupational insurance, mortality, cancer, sick leave, hospitalizations, disability

PREUČEVANJE GENSKO-OKOLJSKIH INTERAKCIJ NA PRIMERU AZBESTNIH BOLEZNI

STUDYING GENE-ENVIRONMENT INTERACTIONS: THE CASE OF ASBESTOS-RELATED DISEASES

**prof. dr. Alenka Franko^{1,2}, prof. dr. Vita Dolžan³, doc. dr. Katja Goričar³,
izr. prof. dr. Viljem Kovač^{2,4}, izr. prof. dr. Metoda Dodič Fikfak^{1,2}**

¹ *Klinični inštitut za medicino dela, prometa in športa,*

Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija

² *Medicinska fakulteta, Univerza v Ljubljani, Ljubljana, Slovenija*

³ *Laboratorij za farmakogenetiko, Inštitut za biokemijo in molekularno genetiko, Medicinska fakulteta, Univerza v Ljubljani, Ljubljana, Slovenija*

⁴ *Onkološki inštitut v Ljubljani, Ljubljana, Slovenija*

alenka.franko@kclj.si

IZHODIŠČE

Vedno več je dokazov, da na pojav mnogih bolezni, vključno z azbestnimi boleznimi, kot so plevralni plaki, difuzne zadebelitve plevre, plevralni izliv, azbestoza, pljučni rak, maligni mezoteliom ter druge vrste rakov, vplivajo tako dejavniki okolja kot tudi genetski dejavniki. Čeprav so bolezni, povezane z izpostavljenostjo azbestu, med najbolj raziskovanimi poklicnimi boleznimi ter je bila vzročna povezava med izpostavljenostjo azbestu in azbestnimi boleznimi jasno dokazana, pa je bilo do zdaj relativno malo znanega o genetskih dejavnikih, ki lahko modificirajo posameznikovo dovzetnost za pojav teh bolezni. Zato je bil namen več naših raziskav preučiti vpliv interakcij med izpostavljenostjo azbestu in genetskimi dejavniki na tveganje za nastanek, odgovor na zdravljenje in napredovanje bolezni, povezanih z izpostavljenostjo azbestu.

METODE

Raziskovanje je potekalo večinoma v okviru projektov Javne agencije za raziskovalno dejavnost Republike Slovenije. Raziskave so bile multidisciplinarne, v njih smo sodelovali raziskovalci Kliničnega inštituta za medicino dela, prometa in športa Univerzitetnega kliničnega centra v Ljubljani, raziskovalci Laboratorija za farmakogenetiko Medicinske fakultete v Ljubljani ter raziskovalci Onkološkega inštituta v Ljubljani.

V naše raziskave so bili vključeni preiskovanci, ki so bili poklicno izpostavljeni azbestu predvsem v Salonit Anhovo ter tudi v nekaterih drugih podjetjih v Sloveniji. Podatki o izpostavljenosti azbestu so bili pridobljeni iz predhodnih raziskav ali pa so bili ocenjeni s semikvantitativno metodo. Za genotipizacijo smo uporabili metode, ki temeljijo na PCR. Statistične metode so vključevale deskriptivno in logistično-regresijsko analizo.

REZULTATI

Rezultati naših študij so pokazali pozitivno povezavo med izpostavljenostjo azbestu in tveganjem za razvoj azbestnih bolezni. Ugotovljena je bila tudi povezava med različnimi genetskimi polimorfizmi in temi boleznimi. Poleg tega so rezultati naših raziskav pokazali, da interakcije med izpostavljenostjo azbestu in različnimi genotipi vplivajo na tveganje za pojav, odgovor na zdravljenje in napredovanje bolezni, povezanih z izpostavljenostjo azbestu.

DISKUSIJA

Rezultati naših raziskav kažejo, da lahko poleg izpostavljenosti azbestu tudi genetski dejavniki ter interakcije med izpostavljenostjo azbestu in genetskimi dejavniki pomembno vplivajo na razvoj, odgovor na zdravljenje in napredovanje azbestnih bolezni in jih je treba resno upoštevati pri nadaljnjem raziskovanju poklicnih/okoljskih azbestnih bolezni. Poleg tega rezultati raziskav in dolgoletno sodelovanje raziskovalcev iz navedenih inštitucij kažejo na pomen multidisciplinarnega pristopa in konstruktivnega sodelovanja raziskovalcev različnih strok.

Ključne besede:
azbestne bolezni, geni,
izpostavljenost, interakcija

BACKGROUND

There is growing evidence that both environmental and genetic factors affect the incidence of many diseases, including asbestos-related diseases such as pleural plaques, diffuse pleural thickening, pleural effusion, asbestosis, lung cancer, malignant mesothelioma, and other cancers. Although asbestos-related diseases are among the most-studied occupational diseases, and the causal link between asbestos exposure and asbestos-related diseases has been clearly established, relatively little is known about the genetic factors that may modify an individual's susceptibility to these diseases. Therefore, several of our studies have aimed to investigate the impact of interactions between asbestos exposure and genetic factors on the risk, response to treatment, and progression of asbestos-related diseases.

METHODS

The research was mainly carried out within projects funded by the Slovenian Research Agency. The studies were multidisciplinary, involving researchers from the Institute of Occupational, Traffic, and Sports Medicine at the Ljubljana University Medical Center, the Pharmacogenetics Laboratory at the Faculty of Medicine in Ljubljana, and the Oncology Institute in Ljubljana. Our studies included subjects that had workplace exposure to asbestos, mainly at Salonit Anhovo, but also at some other companies in Slovenia. Information on asbestos exposure was obtained from previous surveys or collected using a semi-quantitative method. PCR-based methods were used for genotyping. Statistical methods included descriptive and logistic regression analysis.

RESULTS

Our study results have shown a positive association between asbestos exposure and the risk of developing asbestos-related diseases. An association between various genetic polymorphisms and these diseases has also been found. In addition, our results show that interactions between asbestos exposure and different genotypes affect the risk, response to treatment, and progression of asbestos-related diseases.

DISCUSSION

Our results show that, in addition to asbestos exposure, genetic factors and interactions between asbestos exposure and genetic factors can have a significant impact on the development, response to treatment, and progression of asbestos-related diseases. These should be taken into serious consideration in future research on occupational and environmental asbestos-related diseases. Furthermore, the study results and the long-standing cooperation of researchers from these institutions show the importance of a multidisciplinary approach and constructive cooperation between researchers from different disciplines.

Keywords:

asbestos-related diseases, genes, exposure, interactions

PREZENTIZEM MED ZDRAVSTVENIMI DELAVCI INVALIDI

PRESENTEEISM AMONG DISABLED HEALTH WORKERS

doc. dr. Alenka Škerjanc

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
alenka.skerjanc@kclj.si*

IZHODIŠČE

Invalidnost je kazalnik negativnega zdravja delavcev. Znano je, da delavci, tudi invalidi, prihajajo na delo tedaj, ko se počutijo tako bolne, da bi lahko šli v bolniški stalež. Ta pojav imenujemo prezentizem. V raziskavi o prezentizmu v UKC Ljubljana smo ugotovili, da je med zdravstvenimi delavci 57 % prezentistov. Želeli smo raziskati tveganje, da bodo invalidi zaradi posameznih dejavnikov postali prezentisti.

METODE

Iz presečne študije smo povzeli odgovore iz vprašalnika, ki ga je sestavljalo 57 vprašanj in so ga prejeli vsi zaposleni zdravstveni delavci, tudi 348 invalidov. Prezentisti, odvisna spremenljivka, so bili tisti, ki so bili v letu 2010 vsaj 2x ali več prisotni na delu, ko so se počutili bolne, opazovani dejavniki tveganja pa demografski dejavniki, življenjski dogodki, dejavniki, povezani z delom, zdravstveno stanje ter oviranost. Uporabili smo deskriptivno statistiko, univariatno in multivariatno logistično regresijo.

REZULTATI

Med 248 invalidi, respondenti, je bilo 183 prezentistov (73,8 %) in 65 neprezentistov (26,2 %). Pomembni dejavniki tveganja, da bo invalid postal prezentist, so zlasti nižji osebni dohodek od povprečnega (RO=7.0, 95%IZ=2.1-22.8, $p<0,001$), kronična bolezen kot vzrok invalidnosti (RO=31.0, 95%IZ=11.0-87.2, $p<0,001$) in slaba ocena lastnega zdravja (RO=4.2, 95%IZ=1.1-15.9, $p<0,035$).

RAZPRAVA

Višji prezentizem med invalidi potrjuje njegovo ekonomsko povezanost. Nadomestilo za invalidnost je v primeru rednega dela nižje kot osebni dohodek, ki se v primeru bolniškega staleža še zniža. Kronična okvara zdravja pri invalidih

prezentistih vzbuja občutek, da delajo bolni, z nadomeščanjem sodelavcev so obremenjeni tako, da delajo preko polnega delovnega časa. Razpoložljivost za delo je pri invalidih slabša, posledično je slabša tudi produktivnost, saj bolan človek dela v primerjavi z zdravim več napak pri delu in porabi več časa za izvedbo delovnih nalog. Obremenjeni so z duševnimi motnjami in kostno-mišičnimi boleznimi. Upad bolniškega staleža se je v času krize leta 2009 pokazal na področju duševnih motenj na nivoju cele države in kaže na prezentizem.

ZAKLJUČEK

Čeprav so invalidi razbremenjeni pri delu, so zelo pogosti prezentisti. Postavlja se vprašanje prilagojenosti delovnih mest in potreba po oceni sistema določanja invalidnosti. Poleg bolezenskih predvsem finančni in psihosocialni dejavniki razložijo večje obete za prezentizem. Smiselno bi bilo usmeriti pozornost na organizacijske in ergonomske vidike ureditve delovnih mest za invalide.

Ključne besede:
prezentizem, invalidi, kronična bolezen, osebni dohodek

BACKGROUND

Disability is an indicator of poor health in workers. Workers, including the disabled, often come to work even when they feel sick and would be able to go on sick leave. This is referred to as presenteeism. The study on this phenomenon at the Ljubljana University Medical Center showed that 57% of health workers engage in presenteeism. The study also examined the risk of presenteeism among disabled workers due to various factors.

METHODS

The cross-sectional study used a questionnaire composed of 57 questions, which was distributed to all the health workers, including 348 disabled individuals. Presenteeism was the dependent variable, and it covered workers that came to work at least twice while sick in 2010. The risk factors observed included demographics, life events, work-related factors, health conditions, and disability. Descriptive statistics were applied along with univariate and multivariate logistic regression.

RESULTS

Among the 248 disabled respondents, 183 (73.8%) exhibited presenteeism. The main risk factors included below-average income (OR = 7.0, 95% CI = 2.1–22.8, $p < 0.001$), chronic illness as the cause of disability (OR = 31.0, 95% CI = 11.0–87.2, $p < 0.001$), and poor assessment of one's own health (OR = 4.2, 95% CI = 1.1–15.9, $p < 0.035$).

DISCUSSION

The higher degree of presenteeism established among the disabled workers confirms its correlation with income. The disability allowance for full-time employees is smaller than the salary, and this is further reduced during sick leave. A chronic illness in disabled workers gives the impression they are working while sick, and they usually work overtime when substituting for a colleague. Disabled workers are less available for work, which also reduces their productivity because sick individuals make more mistakes at work and require more time to perform their work tasks compared to healthy people. They suffer from mental disorders and musculoskeletal diseases. During the 2009 economic crisis, a decline in sick leave due to mental disorders was recorded at the level of the entire country, pointing to presenteeism.

CONCLUSION

Even though disabled workers have a reduced workload, presenteeism is very common among them. Workplaces should be suitably adapted to their needs, and the disability rating system should be reassessed. In addition to health-related factors, it is primarily the financial and psychosocial factors that explain the higher risk of presenteeism. It would make sense to direct attention to the organizational and ergonomic aspects of work positions for the disabled.

Keywords:

presenteeism, disabled workers, chronic illness, income

PRESTRUKTURIRANJE V TEKSTILNI INDUSTRIJI IN ZDRAVJE DELAVCEV

TEXTILE INDUSTRY RESTRUCTURING AND WORKERS' HEALTH

**Katja Draksler, asist. dr. Nataša Dernovšček Hafner,
izr. prof. dr. Metoda Dodič Fikfak**

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
katja.draksler@kclj.si*

IZHODIŠČE

Prestrukturiranje podjetij negativno vpliva na zdravje izpostavljenih delavcev, tako tistih, ki po odpuščanjih ostanejo brez zaposlitve in kasneje najdejo (ponovno zaposleni) oz. ne najdejo (brezposelni) novo zaposlitev, kot tudi tistih, ki zaposlitev kljub spremembam v podjetju ohranijo (preživelci). V raziskavi nas je zanimalo, kakšno je zdravje vseh zaposlenih po prestrukturiranju tekstilnega podjetja in ali med tremi skupinami obstajajo kakšne razlike.

METODE

Na telefonsko anketo z 78 vprašanji je odgovorilo 1046 anketirancev. Podatke smo obdelali s pomočjo statističnih paketov SPSS in R package version 1.2 of prLogistic. Razlike med skupinami smo izračunali s pomočjo hi-kvadrat testa in logistične regresije ob kontroli vpliva spola, starosti in stopnje izobrazbe.

REZULTATI

Med tremi skupinami delavcev obstajajo razlike v obolevnosti, ki so značilne tudi po tem, ko smo kontrolirali vpliv spola, starosti in stopnje izobrazbe. Primerjava pokaže predvsem pomembno/značilno slabše duševno zdravje brezposelnih, ki pogosteje kot ponovno zaposleni in preživelci poročajo o depresiji kadar koli v življenju, prav tako pa so vidne tudi pomembne razlike v povišanem krvnem tlaku, povišani stopnji holesterola v krvi ter težavah s srcem. Verjetnost, da bodo brezposelni imeli depresijo, je skoraj 2,5-krat večja kot pri preživelcih in 1,6-krat večja v primerjavi s ponovno zaposlenimi. Ponovno zaposleni, ki so nedvomno boljšega zdravja kot brezposelni, so prav tako pogosteje poročali o depresiji kot preživelci.

ZAKLJUČKI

Podatki naše raziskave kažejo na slabo zdravstveno stanje delavcev, ki so bili izpostavljeni prestrukturiranju tekstilnega podjetja. Primerjava med skupinami kaže zlasti slabo duševno zdravje brezposelnih, torej tistih, ki so ob stečaju izgubili zaposlitev in so bili v času trajanja raziskave še vedno brezposelni. Čeprav je tudi zdravje ponovno zaposlenih slabše od preživelcev, kar kaže na daljnosežne posledice, ki jih ima na delavce izguba zaposlitve tudi v primeru, ko kasneje najdejo novo zaposlitev. Nedvomno pa odpuščanje v podjetju prinaša negativne posledice tudi za preživle delavce, ki so slabšega zdravja kot splošna populacija. Pomembno je, da nadaljujemo z raziskovanjem vplivov organizacijskih sprememb na zdravje delavcev in ugotovitve prenašamo tudi v prakso, tako da bo breme organizacijskih sprememb (bolj) enakomerno porazdeljeno med vsemi deležniki in se bodo podjetja v vedno večji meri zavezala k bolj družbeno odgovornemu prestrukturiranju.

Ključne besede:
organizacijsko prestrukturiranje,
delavci, tekstilna industrija, zdravje

BACKGROUND

Company restructuring has a negative impact on the health of workers affected by it, both those that are left jobless after layoff and later either find a new job (the reemployed) or not (the unemployed) or those that keep their jobs despite the changes made in the company (the survivors). The study investigated the health of all workers after a textile company was restructured and whether there were any differences between the three groups described.

METHODS

A total of 1,046 respondents participated in a telephone survey consisting of 78 questions. The data were processed using the SPSS package and the prLogistic R Package version 1.2. The differences between the groups were calculated using the chi-square test and logistic regression, while controlling for the effect of sex, age, and education.

RESULTS

There were differences in morbidity between the three groups of workers that also persisted after controlling for sex, age, and education. The comparison between the groups showed significantly poorer mental health among the unemployed, who more often reported suffering from depression at any point in their lives than the reemployed and survivors; there were also significant differences in elevated blood pressure, cholesterol level, and cardiac disorders. The probability of the unemployed having depression at any point in their lives is 2.5 times higher compared to the survivors and 1.6 times higher compared to the reemployed. The reemployed, who were clearly in better health than the unemployed, reported depression more often than the survivors.

CONCLUSION

The study data show poor health status among the workers affected by the textile company's restructuring. First and foremost, the comparison between the three groups reveals poor mental health among the unemployed—that is, the workers that had lost their jobs when the company went bankrupt and were still without a job at the time of the survey. However, the health of the reemployed was also poorer than that of the survivors, which suggests that losing a job can have a far-reaching impact on workers, even if they later find a new job. Laying off clearly has a negative impact on the survivors, who are of poorer health than the general population. It is vital to continue investigating the impact of organizational changes on workers' health and apply research findings in practice, so that the burden of organizational changes is (more) evenly distributed among all stakeholders and more companies commit themselves to more socially responsible restructuring.

Keywords:

organizational restructuring,
workers, textile industry, health

VPLIV PODATKOV O ZDRAVJU DELAVCEV NA ODLOČANJE DELODAJALCA MED PROCESOM PRESTRUKTURIRANJA

THE IMPACT OF WORKERS' HEALTH DATA ON EMPLOYERS' DECISIONS DURING WORKFORCE RESTRUCTURING

dr. Andrea Margan, izr. prof. dr. Metoda Dodič Fikfak

*Klinični inštitut za medicine dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
andrea.margan@kclj.si*

IZHODIŠČE

V času gospodarskega prestrukturiranja in krize je veliko delavcev odpuščenih ali premeščenih na nova delovna mesta. Na odločitev delodajalca, koga bo odpustil in koga premestil, lahko vpliva tudi zdravje delavca. Zaradi varovanja osebnih podatkov delodajalci praviloma ne vedo, kako zdravi ali bolni so delavci, zato se pri vedenju o tem lahko odločajo le na podlagi kazalnikov zdravja, ki so jim dostopni. Ti so: bolniški dopust, spričevalo pooblaščenega zdravnika in kategorija invalidnosti. Cilj raziskave je bil ugotoviti, kako objektivni kazalci zdravstvenega stanja delavcev, do katerih ima delodajalec dostop, vplivajo na odločanje delodajalca v procesu kadrovskega prestrukturiranja podjetja (premeščanje/odpuščanje).

METODE

Slovensko podjetje s 1000 zaposlenimi je v letu 2005 začelo kadrovske prestrukturiranje, ki je vključevalo zmanjševanje števila zaposlenih in premeščanje na druga delovna mesta znotraj podjetja. Temeljna zasnova raziskave je študija kohorte delavcev izbranega podjetja, znotraj katere so bile vgnezdene štiri samostojne študije primerov s kontrolami. Izhodiščno opazovano populacijo predstavlja 885 delavcev, ki so bili na dan 1. 1. 2005 vsaj eno leto zaposleni za nedoločen čas v opazovani tipični delniški družbi. Kot primera sta bili opredeljeni dve skupini delavcev: delavci, ki jih je delodajalec v opazovanem obdobju premestil na drugo delovno mesto, in delavci, ki jim je odpovedal pogodbo o zaposlitvi zaradi poslovnega razloga. Kontrola so bili delavci iz preostale kohorte, usklajeni po socialnem statusu, spolu in starosti.

REZULTATI

Rezultati kažejo, da na odločitev delodajalca o izbiri delavcev najbolj vplivata kategorija invalidnosti in dolgotrajni bolniški dopust. Delovni invalidi in delavci, ki so bili na bolniškem dopustu ≥ 30 dni, imajo manj možnosti, da bodo premeščeni na novo delovno mesto, in več možnosti, da bodo odpuščeni. Multivariatna analiza je pokazala, da se obeti za prenehanje delovnega razmerja povečajo v prisotnosti dveh dejavnikov tveganja (bolniški dopust ≥ 30 dni in omejitev zmožnosti za delo (RO = 4,16; 95 % IZ 1,91–9,07).

ZAKLJUČEK

V raziskavi smo dokazali, da kazalniki zdravja, do katerih ima dostop delodajalec, vplivajo na odločanje delodajalca v procesu prestrukturiranja podjetja, kar kaže na direktno obliko zdravstvene selekcije. Rezultati so aktualni tudi v luči prestrukturiranja podjetij zaradi avtomatizacije proizvodnje in pospešene digitalizacije, povzročene z epidemijo koronavirusa.

Ključne besede:

bolniški dopust, kategorija invalidnosti, zdravniško spričevalo, selekcija zaradi zdravstvenega stanja, kadrovsko prestrukturiranje

BACKGROUND

During economic restructuring and crises, many workers are let go or reassigned to new positions. Workers' health can be a factor in employers' decisions regarding which ones to let go and which ones to reassign. Data protection standards mean that employers generally do not know how healthy or ill their workers are, and so they are only able to make decisions based on the health indicators that are accessible to them. These include sick leave, health certificates from authorized physicians, and disability categories. This study sought to determine how these objective employer-accessible health indicators affect employers' decisions during the workforce restructuring process (reassignments/terminations).

METHODS

In 2005, a Slovenian company with 1,000 workers began restructuring its workforce, which included reducing the number of employees and reassigning some to different positions within the company. The basic study design is a cohort study of workers at the selected company, which incorporated four independent case studies with controls. The original population under observation was 885 workers that had been fully employed at this typical joint-stock company for at least one year as of January 1st, 2005. Two groups of workers were defined for the case studies: those that were reassigned to a different position during the observed period, and those whose employment was terminated for business reasons during the same period. The control group was workers from the remaining cohort, matched for social status, gender, and age.

RESULTS

The results indicate that the most important factors in the employer's decision-making were disability categories and long-term sick leave. Disabled workers and those that had been on sick leave ≥ 30 days had lower chances of being reassigned to a new position and higher chances of being let go. Multivariate analysis showed that the chance of employment termination increases in the presence of two risk factors: sick leave ≥ 30 days and limited ability to work (OR = 4.16; 95% CI = 1.91-9.07).

CONCLUSION

This study demonstrated that health indicators that are accessible to employers affect decisions during the workforce restructuring process, which points to a direct form of health selection. These findings are also topical from the perspective of workforce restructuring due to automation of production and accelerated digitalization resulting from the coronavirus pandemic.

Keywords:
sick leave, disability category, medical certificate, selection by health status, workforce restructuring

APLIKACIJA »VIENNA TEST SYSTEM« NA PODROČJU MEDICINE DELA, PROMETA IN ŠPORTA

APPLYING THE VIENNA TEST SYSTEM TO OCCUPATIONAL, TRAFFIC, AND SPORTS MEDICINE

Matej Čeh

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
matej.ceh@kclj.si*

POVZETEK

Ustrezno vedenje delavcev v varnostno zahtevnih delovnih situacijah je ključno za zagotavljanje varnega izvajanja delovnih aktivnosti. Neustrezno izvajanje lahko ogroža varnost delavca, varnost drugih oseb in okolja. Nekatere skupine delavcev so izpostavljene večjim varnostnim tveganjem. Opravljanje dela pod časovnim pritiskom, monotonost dela ter opravljanje vsebinsko zahtevnih in odgovornih del predstavljajo pogoje, v katerih je tveganje za neustrezno izvajanje aktivnosti povečano. Ustrezno in učinkovito izvajanje delovnih opravil v okolju povečanih obremenitev zahteva ustrezno boljše in prilagojene sposobnosti delavca. Vzdrževanje stabilnosti funkcioniranja pod visokimi obremenitvami je individualno nadzorovan proces posameznika. Upravljanje s kognitivnimi viri pa osebi omogoča, da v takšnih okoljih uporablja strategije za zaščito učinkovitega vedenja. Pri ocenjevanju zmožnosti osebe za varno izvajanje delovnih aktivnosti je potrebno uporabiti nabor psihodiagnostičnih postopkov, ki zagotavljajo oceno vseh relevantnih karakteristik psihičnega funkcioniranja osebe. Uporabljeni postopki morajo omogočati oceno skladnosti med sposobnostmi in značilnostmi posameznika ter obremenitvami, ki jim je ta v določenem okolju oz. ob izvajanju aktivnosti izpostavljen.

Študije vplivov človeških faktorjev preučujejo raven obremenitev in tveganja, ob katerih je delovanje človeka in njegovih zmožnosti v mejah ustreznega izvajanja. Izvajanje motoričnih delovnih opravil pod pogoji dela, kot so časovni pritiski, dolgotrajno in monotono delo, zahteve detektiranja, diferenciranja in kompleksne senzorne obdelave, predstavljajo povečano obremenitev senzomotorične funkcije in pozornosti. Ocenjevanje senzoričnega in motoričnega funkcioniranja predstavlja pomemben del psihološkega ocenjevanja v psihologiji dela, prometa

in športa. Integracija senzoričnega in motoričnega sistema omogoča izvedbo in prilagoditev motoričnih aktivnosti na podlagi procesa obdelave senzornih informacij. Dražljaji v okolju in osebi se neprestano spreminjajo, zato je nujno, da je proces integracije fleksibilen, omogoča popravke napak in učinkovito funkcioniranje pod različnimi pogoji.

Za oceno senzomotoričnega funkcioniranja se v psihodiagnostični obravnavi uporabljajo preizkušnje, namenjene ocenjevanju vidno-prostorskih sposobnosti, finih in grobih motoričnih sposobnosti, hitrosti in natančnosti procesiranja informacij ter odzivanja, pozornosti, sposobnosti inhibicije, koordinacije in diferenciacije. Psihodiagnostični inštrument »Vienna Test System« omogoča ocenjevanje senzomotorične funkcije in pozornosti pod različnimi pogoji obremenitev ter daje širšo oceno funkcije. Ob sami oceni izbrane sposobnosti daje vpogled v kognitivne procese, ki so podlaga testnemu dosežku. Celovitejša ocena omogoča boljše razumevanje testnega dosežka, izdelavo kakovostnejših predlogov o ukrepih ter natančnejše povratne informacije.

Ključne besede:
ocena delazmožnosti,
senzomotorična funkcija,
pozornost, reakcijski čas, Vienna
Test System

ABSTRACT

Appropriate worker behavior in safety-sensitive work situations is key to ensuring that work activities are carried out safely. Improper performance can endanger the safety of the worker, other people, and the environment. Some groups of workers are exposed to greater safety risks. Work performed under time pressure, monotonous work, and performing challenging and responsible work are conditions in which the risk of inadequate performance is increased. Appropriately and effectively performing work tasks in an environment of increased stress requires correspondingly improved and adapted worker skills. Maintaining stability of functioning under high stress is controlled at the individual level. Cognitive resource management, on the other hand, enables the person to use strategies to safeguard effective behavior in such environments. Assessing a person's ability to perform work activities safely requires the use of a set of psychodiagnostic procedures that provide an assessment of all relevant characteristics of a person's mental functioning. The procedures used must enable an assessment of the correspondence between the abilities and characteristics of individuals and the stresses to which they are exposed in a particular environment or activity.

Studies of the impact of human factors examine the level of stress and risk at which human performance and capabilities are within the limits of appropriate performance. The performance of motor tasks under working conditions such

as time pressures, prolonged and monotonous work, and demands of detection, differentiation, and complex sensory processing place increased strain on sensorimotor function and attention. Assessment of sensorimotor function is an important part of psychological assessment in occupational, traffic, and sports psychology. The integration of the sensory and motor systems allows the performance and adaptation of motor activities based on the processing of sensory information. The stimuli in the environment and within the person are constantly changing, so it is essential that the integration process is flexible, allowing error correction and effective functioning under various conditions.

To assess sensorimotor functioning, psychodiagnostics uses tests designed to assess visual-spatial abilities, fine and gross motor skills, speed and accuracy of information processing, and responsiveness, attention, inhibition, coordination, and differentiation skills. The Vienna Test System psychodiagnostic instrument makes it possible to assess sensorimotor function and attention under various stressful conditions and provides a broader assessment of function. In addition to the assessment of the selected ability itself, it provides insight into the cognitive processes underlying the test performance. A more comprehensive assessment provides a better understanding of test performance, better suggestions for action, and more accurate feedback.

Keywords:

assessing work fitness,
sensorimotor function, attention,
reaction time, Vienna Test System

PSIHOFIZIČNE OMEJITVE PRI NASTANKU PROMETNIH INCIDENTOV PRI VOZNIKIH

PSYCHOPHYSICAL LIMITATIONS IN THE OCCURRENCE OF TRAFFIC INCIDENTS AMONG DRIVERS

**doc. dr. Nevenka Šestan¹, red. prof. dr. Zvone Balantič²,
izr. prof. dr. Metoda Dodič Fikfak¹**

¹ *Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana*

² *Fakulteta za organizacijske vede Kranj, Univerza v Mariboru, Maribor, Slovenija
nevenka.sestan@kclj.si*

IZHODIŠČE

Cilj študije je ugotoviti, ali vozniki, ki imajo eno od naslednjih diagnoz: epilepsijo, kronični alkoholizem in/ali tvegano pitje, uživalci psihoaktivnih substanc (PAS), bolniki z drugimi boleznimi živčevja, z duševnimi in vedenjskimi motnjami, s kardiovaskularnimi boleznimi, z diagnozo težjega diabetesa in težjimi okulističnimi boleznimi, obravnavani na posebni zdravstveni komisiji (PZK), predstavljajo večje tveganje za povzročitev prometnih nesreč (PN)/cestno prometnih prekrškov (CPP) od voznikov, povzročiteljev PN/CPP v Sloveniji, ki teh diagnoz nimajo.

METODE

Narejenih je bilo šestnajst študij primerov s kontrolami. Primeri so vozniki, ki so bili v opazovanem obdobju pregledani na PZK in so imeli vsaj eno od zgoraj naštetih diagnoz. Za vsak primer smo kot kontrolo definirali po spolu in starosti usklajene osebe iz kohorte povzročiteljev PN/CPP v istem opazovanem obdobju.

REZULTATI

Vozniki z vodilno diagnozo predhodne poškodbe imajo več kot štirikrat večje obete, da povzročijo PN (RO = 4,44; 95-odstotni IZ = 1,69–11,63), in trikrat večje obete z diagnozo odvisnosti od PAS (RO = 3,52; 95-odstotni IZ = 2,10–5,88), da povzročijo CPP, medtem ko imajo vozniki z boleznimi živčevja petkrat večje obete kot kontrole, da bodo povzročili PN (RO = 5,18; 95-odstotni IZ = 2,59–10,34). Visoko stopnjo tveganja imajo tudi vozniki z duševnimi in vedenjskimi motnjami (RO = 3,64; 95-odstotni IZ = 1,91–6,94) ter vozniki, ki so odvisni od alkohola (RO = 1,71; 95-odstotni IZ = 1,01–2,89). Rezultati za voznike z vodilno diagnozo epilepsija ne kažejo večjega tveganja za CPP/PN.

Ključne besede:

tvegani vozniki, nesreče v prometu, alkoholizem, epilepsija

ZAKLJUČEK

Rezultati potrjujejo hipotezo, da so odvisni vozniki (PAS in alkohol) dejansko tvegani vozniki. Presenetljivo je odkritje visokega tveganja za prometne nesreče pri voznikih z diagnozo bolezni živčevja in z diagnozo predhodne poškodbe.

BACKGROUND

The study examines whether drivers that have been diagnosed with epilepsy, chronic alcoholism and/or risky drinking, psychoactive substance abuse (PAS), other nervous system disorders, mental or behavioral disorders, cardiovascular illnesses, or with severe diabetes or severe ocular illnesses, and have been handled by a special medical committee (SMC) represent a greater risk of causing traffic accidents or traffic incidents compared to drivers that do not have these diagnoses but have caused accidents or incidents.

METHODS

Sixteen case studies with controls were carried out. The cases were drivers that had been handled by a SMC during the observation period and had at least one of the diagnoses given above. A matched control was defined for each case, consisting of individuals of similar sex and age from the cohort of people that had caused traffic accidents or incidents in the same observation period.

RESULTS

Drivers with a leading diagnosis of a previous injury have more than four times the odds of causing a traffic accident (OR = 4.44; 95% CI = 1.69–11.63) and drivers diagnosed with addiction have three times the odds (OR = 3.52; 95% CI = 2.10–5.88), whereas drivers with nervous system disorders have five times the odds of causing a traffic accident compared to controls (OR = 5.18; 95% CI = 2.59–10.34). Drivers with mental or behavioral disorders also have a higher degree of risk (OR = 3.64; 95% CI = 1.91–6.94), as do drivers that are addicted to alcohol (OR = 1.71; 95% CI = 1.01–2.89). The results for drivers with a leading diagnosis of epilepsy do not show a great risk of traffic accidents or incidents.

CONCLUSION

The findings confirm the conclusion that addicted drivers are actually riskier drivers. It was surprising that a high degree of risk for traffic accidents was discovered in drivers with the diagnoses of nervous system disorders and previous injury.

Keywords:

risky drivers, traffic accidents, alcoholism, epilepsy

DIAGNOSTIKA IN ZDRAVLJENJE TENDINOPATIJ PRI ŠPORTNIKI

TENDINOPATHY DIAGNOSTICS AND TREATMENT IN ATHLETES

dr. Martin Zorko

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
martin.zorko@kclj.si*

IZHODIŠČE

Tendinopatija je izraz za boleče stanje tetive in/ali okolico tetive, ki je včasih otečena, okvarjena pa je tudi funkcija tetive. Za njen nastanek je največkrat odgovorna kombinacija dejavnikov, v grobem pa lahko tendinopatije po vzroku nastanka razdelimo v dve skupini: v večjo, pri kateri je glavni dejavnik preobremenitev, in v manjšo skupino, v kateri tendinopatija nastane v okviru sistemskih bolezni ali učinka nekaterih zdravil. Vzrok preobremenitvenih tendinopatij so ponavljajoči gibi, ki specifično obremenijo določeno tetivo ali skupino tetiv. Pri vrhunskih športnikih predstavljajo tendinopatije približno 30 % vseh diagnosticiranih poškodb. Zelo značilna je npr. tendinopatija patelarne vezi pri odbojkarjih. Tudi pri nekaterih poklicih (mizar, vodovodar, zidar, glasbenik, kirurg ...) so tendinopatije pogostejše kot pri splošni populaciji.

RAZPRAVA

V patogenezi nastanka preobremenitvenih tendinopatij se prepletajo različni dejavniki. V osnovi gre za kontinuiran proces neuspešnega celjenja mikropoškodb, pri čemer sodeluje kombinacija sprememb v strukturi kolagena in drugih zunajceličnih fibrilarnih tetivnih struktur (elastin, proteoglikani ...), vnetnih dogajanj v tetivi in odziv celic v tetivi (tenocitov). Diagnozo največkrat postavimo klinično, v dodatno pomoč pa sta nam preiskavi z ultrazvokom in magnetno resonanco, v zadnjem času pa tudi »ultrazvočna tkivna karakterizacija« (UTC) in sonoelastografija. Med strukturnimi spremembami tetiv in stopnjo bolečine ni vedno visoke korelacije. Po drugi strani pa je velika verjetnost, da bo postopna sprememba tetivne strukture v nekem trenutku pripeljala do pojava simptomov. Osnova zdravljenja obsega prilagoditev obremenitev pri športu ali na delovnem mestu ter dodaten aktivni terapevtski režim obremenjevanja tetive, pri katerem imajo počasne ekscentrične vaje največ

Ključne besede:
okvara tetive, preobremenitev,
patogeneza, slikovne metode,
rehabilitacija športnika

znanstvenih dokazov o učinkovitosti. Dodatno se uporabljajo še intervencijski postopki, kot so terapija z udarnim valom, fizikalna elektromodalna terapija, injekcijska terapija (trombocitna plazma, kortikosteroidi, visoki volumni fiziološke raztopine) ter še nekatere druge. V nekaterih primerih je potreben tudi kirurški poseg.

ZAKLJUČEK

Pri približno 30–50% bolnikov je uveljavljen način zdravljenja neuspešen. V zadnjem obdobju se razvijajo številne nove metode, ki bodo morda izboljšale učinkovitost rehabilitacije. Med njimi so genska terapija, terapija z matičnimi celicami in vstavljanje naravnih ali umetnih tkivnih matrik, vendar je za zdaj še premalo dokazov o njihovi učinkovitosti in varnosti, da bi jih uvajali v redno klinično prakso.

BACKGROUND

Tendinopathy is the term used for a painful condition of the tendon and/or the area surrounding it. The tendon is sometimes swollen, and its function is also impaired. A combination of factors is most often responsible for its occurrence, but generally tendinopathies can be divided into two groups according to their etiologies: a large group, in which overuse is the main factor, and a smaller group, in which tendinopathy arises in the context of a systemic disorder or the effect of certain drugs. The causes of overuse tendinopathies are repetitive motions that specifically load a particular tendon or group of tendons. Among top athletes, tendinopathies represent around 30% of all diagnosed injuries. For instance, patellar tendinopathy is very common among volleyball players. Tendinopathies are also more frequent in certain professions (carpenters, plumbers, builders, musicians, surgeons, etc.) than in the general population.

DISCUSSION

The pathogenic development of overuse tendinopathies involves various factors. It is basically an ongoing process of inadequate healing of microinjuries, which is affected by a combination of changes to the collagen structure and other extracellular fibrous tendinous structures (elastin, proteoglycans, etc.), inflammatory events in the tendons, and the cellular response within the tendon (tenocytes). The diagnosis is usually made clinically, but ultrasound and magnetic resonance imaging can offer additional assistance; recent developments also include “ultrasonic tissue characterization” (UTC) and sonoelastography. There is not always a high correlation between structural changes to the tendon and the level of pain. On the other hand, there is a good chance that the gradual changes in tendon structure will at some moment lead to the onset of symptoms. Basic treatment

consists of adapting the load during use in sports or at the workplace, plus an additional active therapy regime of tendon loading, in which slow, eccentric exercises show the most scientific evidence of effectiveness. In addition, interventional procedures such as shock wave therapy, physical electromodal therapy, injection therapy (platelet-rich plasma, corticosteroids, high volumes of saline), and others are used. In some cases, surgical intervention is also necessary.

CONCLUSION

In somewhere between 30 and 50% of patients, the standard therapies are unsuccessful. Recent years have seen the development of numerous new methods that may improve rehabilitation effectiveness. These include gene therapy, stem cell therapy, and the insertion of natural or artificial tissue matrices, but for now there is insufficient evidence of their efficacy and safety to introduce them into routine clinical practice.

Keywords:

tendon disorders, overuse, pathogenesis, imaging methods, sports rehabilitation

SPREMEMBE DOMINANTNE RAME PRI ŠPORTIH Z GIBI ROKE NAD GLAVO

SHOULDER INJURIES IN SPORTS INVOLVING ARM MOVEMENTS ABOVE THE HEAD

dr. Katarina Cunder

*Univerzitetni rehabilitacijski inštitut Republike Slovenije –
URI Soča, Ljubljana, Slovenija
katarina.cunder@ir-rs.si*

POVZETEK

Pri športnikih, ki pri športu izvajajo specifične gibe roke nad glavo, pride do tipičnih anatomskih in biomehanskih prilagoditev dominantne rame. Na slovenskem jezikovnem področju se je omenjenih športov prijel izraz »metalni« športi (angl. *overhead sports*), so pa zanje poleg metov značilni tudi udarci, zavesljaji in drugi gibi roke nad glavo. Med najpogostejše metalne športe pri nas sodijo odbojka, rokomet, plavanje, tenis in atletske discipline (met kopja in diska, suvanje krogle).

V grobem prilagoditvene spremembe dominantne rame delimo v tri skupine. Prvo skupino predstavljajo spremembe rotacijske gibljivosti. Opažamo primanjkljaj notranje rotacije in presežek zunanje rotacije na dominantni strani. Povzročajo jih mehkokivne (zakrčenost spodnjega dela glenohumeralne sklepne ovojnice) in kostne prilagoditve (povečan kot retroverzije nadlahtnice, poudarjena anteverzija glenoida, kifoza prsne hrbtenice). V drugi skupini so spremembe položaja in gibanja dominantne lopatice, ki jih opisujemo pod akrominom *SICK scapula* sindrom. Dominantna lopatica je spuščena, protrahirana, lateralizirana in abducirana. Pri gibanju nadlahtnice v abdukcijo je gibanje lopatice nezadostno in nepravilno. Tretjo skupino predstavljajo nesorazmerja mišične moči med notranjimi in zunanji rotatorji glenohumeralnega sklepa. Opažamo nižje ekscentrične navore zunanjih rotatorjev, nižja razmerja med notranjimi in zunanji rotatorji ter povečano utrujanje rotatorjev na dominantni strani.

Ko so prilagoditvene spremembe prekomerno izražene, lahko vodijo v okvaro dominantne rame. Poškodbe rame so pri športnikih metalcih med pogostejšimi vzroki za daljši izostanek iz trenažnega in tekmovalnega procesa, zato je potrebno pri posameznem športniku redno spremljati razvoj prilagoditvenih sprememb. Najpogostejše poškodbe, ki nastanejo kot posledica neprepoznanih prilagoditvenih sprememb, so SLAP lezija tipa 2, poškodba rotatorne manšete in sprednja nestabilnost ramenskega sklepa.

Vaje za preprečevanje prekomerne izraženosti prilagoditvenih sprememb moramo od najmlajših selekcij dalje vključiti v redni režim preventivnega treninga oziroma rehabilitacijskega programa, v kolikor je že prišlo do posledičnih sekundarnih okvar v področju rame. Najpomembnejše so vaje za raztezanje zadnjega spodnjega dela sklepne ovojnice in prsnih mišic, vaje za stabilizacijo lopatic in ekscentrično krepitev zunanjih rotatorjev.

Ključne besede:
metalni šport, dominantna rama, prilagoditvene spremembe, preventiva, rehabilitacija

ABSTRACT

Athletes that make specific arm movements above the head often exhibit typical anatomical and biomechanical adaptations in the dominant arm. These overhead sports involve more than just throwing; they are also characterized by punches, swings, and other overhead arm movements. The most common overhead sports in Slovenia include volleyball, handball, swimming, tennis, and athletics (javelin, discus, and shot put).

The adaptive changes to the dominant arm can be roughly divided into three groups. The first group is characterized by changes in rotational range of motion. A deficit in internal rotation and excessive external rotation is seen on the dominant side. They are caused by adaptations in the soft tissue (tightness of the lower part of the glenohumeral joint capsule) and bone (increased humeral retroversion angle, pronounced glenoid anteversion, and thoracic kyphosis). The second group includes changes in the position and movement of the dominant scapula, referred to as the SICK scapula syndrome. The dominant scapula is lowered, protracted, lateralized, and abducted. When the humerus is abducted, the scapular movement is insufficient and irregular. The third group exhibits muscle strength imbalances between the internal and external rotators of the glenohumeral joint. Lower eccentric torques of the external rotators, lower ratios between the internal and external rotators, and increased rotator fatigue on the dominant side can be observed.

When adaptive changes are overexpressed, they can lead to a defect in the dominant shoulder. Shoulder injuries are one of the most common causes of prolonged absence from training and competition in overhead athletes, and the development of adaptive changes in the individual athlete should be monitored regularly. The most common injuries resulting from undetected adaptive changes are SLAP lesion type 2, rotator cuff injury, and anterior instability of the shoulder joint.

Keywords:

overhead sport, dominant shoulder, adaptive changes, prevention, rehabilitation

Exercises to prevent the overexpression of adaptive changes should be included in regular preventive training regimes, or rehabilitation programs, from the youngest age groups onwards, if secondary damage to the shoulder has already occurred. The most important exercises are those for stretching the posterior lower joint capsule and the pectoral muscles, scapular stabilization exercises, and eccentric strengthening of the external rotators.

ŠPORTNA PREHRANA: PRETEKLOST, SEDANJOST IN PRIHODNOST

SPORTS NUTRITION: PAST, PRESENT, AND FUTURE

asist. dr. Iva Jurov

*Klinični inštitut za medicino dela, prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
iva.jurov@kclj.si*

IZVLEČEK

Športna prehrana je izjemno zanimiva ne le za strokovno javnost, ampak tudi za športnike, športne organizacije, trenerje, vedno bolj pa tudi za proizvajalce. V prispevku bodo predstavljene razlike med znanjem in odnosom do športne prehrane, ki smo ga imeli v preteklosti, ki ga imamo danes in kaj nas verjetno čaka v prihodnosti. Ker se na področju športne prehrane tipično dogaja, da potrošniški trg prehiteva znanstvena dognanja in nemalokrat povzroča zdravstveno škodo športnikom, bo v prispevku razloženo, zakaj do tega prihaja in kaj so pasti, na katere mora biti pozoren zdravstveni delavec oz. športni strokovnjak. Dotaknili se bomo tudi glavnih znanstvenih dognanj na tem področju, dopinga in športne zmogljivosti v povezavi s športno prehrano. Na koncu bo predstavljen pogled v prihodnost, kjer bomo pregledali verjetne prednosti in slabosti, ki jih prinaša razvoj športne prehrane tako za športnika kot za zdravnika.

Ključne besede:

športna prehrana; prehranski dodatki; energijska razpoložljivost; makrohranila

ABSTRACT

Sports nutrition is extremely interesting not only for the professional community, but also athletes, sports organizations, coaches, and increasingly also supplement producers. This paper presents the differences between the past and present understandings of and attitudes toward sports nutrition, and what most likely awaits us in the future. The consumer market typically leaps ahead of sports nutrition research findings and often endangers athletes' health, and so this paper looks at why this is happening and examines the traps health workers or sports experts must pay attention to. The main research findings in this area are also discussed, along with doping and sports performance in connection with nutrition. In conclusion, prospects for the future are presented, examining the most likely advantages and disadvantages for both athletes and physicians in terms of sports nutrition development.

Keywords:

sports nutrition, dietary supplements, energy availability, macronutrients

VPLIV PANDEMIJE COVIDA-19 NA ŽIVLJENJE - IZSLEDKI RAZISKAVE SI-PANDA

THE IMPACT OF THE COVID-19 PANDEMIC ON PEOPLE'S LIVES: FINDINGS OF THE SI-PANDA STUDY

Ada Hočevar Grom

*Nacionalni inštitut za javno zdravje, Ljubljana, Slovenija
ada.hocevar@nijz.si*

IZHODIŠČE

Razumevanje mišljenja in vedenja ljudi v času pandemije pomaga identificirati tvegane ciljne skupine in poiskati ustrezne rešitve za doseganje boljšega upoštevanja priporočenih ukrepov, nakazuje pa tudi dolgoročneje posledice dolgo trajajoče javnozdravstvene krize. S panelno spletno raziskavo o vplivu pandemije na življenje ljudi (SI-PANDA) smo želeli prepoznati in obravnavati vpliv pandemije, uvedenih epidemioloških ukrepov ter vladnih odločitev na življenje ljudi v Sloveniji.

METODE

SI-PANDA je spletna raziskava na reprezentativnem vzorcu okoli 1000 oseb, vključenih v spletni panel, starih od 18 do vključno 74 let. Izvajala se je v devetnajstih ponovitvah, od 4. 12. 2020 do 10. 12. 2021. Predstavljeni so nekateri ključni rezultati vpliva pandemije na življenje anketiranih oseb s poudarkom na dolgoročnejših posledicah za zdravje.

REZULTATI

Rezultati raziskave so pokazali, da je pandemija covid-19 poslabšala življenjski slog prebivalcev. Decembra 2021 je 42,9 % oseb navajalo, da so preživeli več časa pred različnimi zasloni kot pred pandemijo, 35,2 % oseb je bilo manj fizično aktivnih, 17,2 % oseb je uživalo več nezdrave hrane, 10 % je več kadilo in 8,8 % uživalo več alkohola kot pred pandemijo. Tekom celotne raziskave je bil delež tistih, ki so poročali o poslabšanih navadah življenjskega sloga, najvišji v najmlajši starostni skupini. Tudi o težavah z duševnim zdravjem so najpogosteje poročali najmlajši anketiranci. Decembra 2021 je 32 % oseb, starih od 18 do 29 let, navajalo, da so se v zadnjih 14 dneh vsakodnevno ali pogosto počutili napete, pod stresom ali velikim pritiskom. So pa najstarejši anketiranci v največjem deležu (66,1 %) poročali, da je pandemija poslabšala njihove socialne stike s širšo družino in prijatelji. Najstarejši se tudi v največji meri strinjajo, da je cepljenje proti covidu-19 ključni ukrep v boju proti širjenju bolezni (82,6 %).

RAZPRAVA

Rezultati raziskave so pokazali, da je pandemija covid-19 oz. sama bolezen bolj prizadela starejše prebivalce, posledice ukrepov za njeno zajezitev pa so vidne predvsem pri mlajših starostnih skupinah. V prihodnje bomo morali posebno pozornost nameniti predvsem mlajšim prebivalcem, s poudarkom na duševnem zdravju in ponovnem izboljšanju življenjskega sloga. Poslabšanje življenjskih navad prebivalcev, poslabšana dostopnost do zdravstvenega sistema in zaustavitev preventivnih programov pa bodo imeli dolgoročne posledice in lahko pričakujemo povečano breme kroničnih nalezljivih bolezni.

Ključne besede:

SI-PANDA, pandemija, življenjski slog, duševno zdravje, covid-19

BACKGROUND

Understanding how people think and behave during a pandemic helps identify at-risk target groups and find appropriate solutions to improve adherence to the recommended measures, and also points to the long-term consequences of a protracted public health crisis. This online panel survey on the impact of the pandemic on people's lives (SI-PANDA) was used to identify and address the impact of the pandemic, the epidemiological measures put in place, and the government's decisions on people's lives in Slovenia.

METHODS

SI-PANDA is an online panel survey using a representative sample of around 1,000 individuals 18 to 74 years of age. It was carried out in nineteen iterations, from December 4th, 2020 to December 10th, 2021. This paper presents some of its key findings regarding the pandemic's impact on the respondents' lives, with an emphasis on its long-term effect on health.

RESULTS

The study findings showed that the COVID-19 pandemic had a negative impact on Slovenians' lifestyle habits. In December 2021, 42.9% of respondents stated that they had spent more time in front of various screens, 35.2% had been less physically active, 17.2% had eaten more unhealthy foods, 10% had smoked more, and 8.8% had drunk more alcohol than before the pandemic. Throughout the entire study, the percentage of those that reported deteriorated lifestyle habits was greatest among the youngest age group. The youngest respondents also most frequently reported mental health problems. In December 2021, 32% of respondents 18 to 29 years old stated that they had felt tense, stressed, or under great pressure every day or frequently during the previous 14 days. The oldest group of respondents had the highest percentage (66.1%)

of people reporting that the pandemic had weakened their social contacts with their family and friends. The oldest respondents also showed the strongest agreement that vaccination for COVID-19 was a key measure in the battle to contain the disease (82.6%).

DISCUSSION

The study findings indicate that the COVID-19 pandemic, or the disease itself, has affected older people more, whereas the consequences of the containment measures are primarily visible among younger age groups. In the future special attention will have to be paid above all to younger people, with an emphasis on mental health and improving their lifestyles. The negative impact on people's lifestyle habits, reduced access to the healthcare system, and the cessations of preventive programs will have long-term effects, and an increased burden of chronic contagious diseases is to be expected.

Keywords:

SI-PANDA, pandemic, lifestyle, mental health, COVID-19

SKRB ZA DUŠEVNO ZDRAVJE DELAVCEV V ZDRAVSTVU MED PANDEMIJO COVIDA-19

TAKING CARE OF HEALTH WORKERS' MENTAL HEALTH DURING THE COVID-19 PANDEMIC

asist. dr. Nataša Dernovšček Hafner

*Klinični inštitut za medicino dela prometa in športa,
Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija
natasa.dernovscekhafner@kclj.si*

IZHODIŠČE

Soočanje s pandemijo covid-19 predstavlja za delavce v zdravstvu pomemben vir stresa in duševnih stisk, saj so pri svojem delu neposredno izpostavljeni možnostim okužbe. Delo s covidnimi bolniki poteka v na novo vzpostavljenih organizacijskih enotah, v posebni varovalni opremi, umrljivost bolnikov pa je visoka. Ob stopnjevanju obremenitev zdravstvenih delavcev smo se psihologi v UKC Ljubljana, ob podpori vodstva, kriznega štaba, Službe za korporativno varnost, Tehnične službe in Službe za odnose z javnostmi, povezali in aktivno vključili v pomoč zaposlenim.

METODE

Marca 2019 smo vzpostavili telefonsko pomoč za zaposlene, 4-urni odprti telefon od ponedeljka do petka, z direktno prevezavo na mobilni svetovalec. V telefonsko svetovanje je bilo prostovoljno vključenih 22 psihologov iz različnih organizacijskih enot. Poleg te intervencije smo organizirali tudi dnevna dežurstva na najbolj izpostavljeni covidni lokaciji, skupinske razbremenilne in motivacijske razgovore na drugih covidnih oddelkih s ciljem opolnomočenja delavcev, individualne obravnave, psiho-edukacijskih delavnic za spoprijemanje s stresom ter pripravili strokovna priporočila za vodje in zaposlene, kako v spremenjenih razmerah poskrbeti za dobro psihično počutje.

REZULTATI

V skupinskih intervencijah je do novembra 2021 sodelovalo 264 zaposlenih iz različnih poklicnih skupin. V enoletnem obdobju, od novembra 2020 do novembra 2021, smo zabeležili 45 klicev, ki postajajo vstopnica za osebni razgovor. V obdobju od junija do novembra 2021 smo izvedli 60 individualnih obravnav. Prevladujoči razlogi za iskanje pomoči so bili: anksioznost, strah pred okužbo, zanikanje, jeza nad situacijo, spopadanje s stigmatom, nespečnost, izčrpanost in depresivna simptomatika. Pojavljajo se stiske delavcev po prebolelem covidu-19 (*»Nisem več tak kot prej.«*). Tipična iskalka pomoči je ženska, diplomirana medicinska sestra, v starostni skupini od 40 do 50 let.

Ključne besede:
pandemija, covid-19, delavci v
zdravstvu, psihološka podpora,
duševno zdravje

RAZPRAVA

Dve leti po zagonu pandemije z intervencijami v okviru brezplačne psihološke pomoči zaposlenim v UKC Ljubljana nadaljujeva dve sodelavki. Strokovno obravnavo izvajava na individualni in skupinski ravni z zagotovljeno anonimnostjo, zaupnostjo in varnostjo.

Trenutno še ne vemo, v kolikšnem obsegu se bodo v prihodnje izražale duševne stiske zaradi posledic pandemije. Ukrepi podpore zaposlenim ob njenem zagonu so bili ustrezni, pravočasni in med uporabniki zelo dobro sprejeti ter izvrsten temelj za vzpostavitev dolgoročneje oblike pomoči za ohranjanje in krepitev duševnega zdravja zaposlenih ob soočanju z različnimi izzivi poklicnega in zasebnega življenja.

BACKGROUND

The COVID-19 pandemic has been a significant source of stress and mental distress for healthcare workers, because they are directly exposed to the potential of infection at work. COVID-19 patients are being cared for in newly established organizational units using special protective equipment, and patient mortality is high. As the healthcare workers faced increasing stress at work, psychologists at Ljubljana University Medical Center, supported by the management, the crisis response team, the corporate security service, the technical service, and the public relations service joined forces and stepped in to help the employees.

METHODS

In March 2019, we launched an employee hotline that was available 4 hours a day from Monday to Friday, with a direct link to the counselor's mobile phone. Twenty-two psychologists from various organizational units volunteered to provide telephone counseling. In addition to this initiative, we also arranged for daily on-call duties at the busiest COVID-19 site, group relief and motivational sessions at other COVID-19 departments. The goal was to empower workers by offering individual counseling and psychoeducational workshops on coping with stress. Expert recommendations were also produced for managers and employees on how to maintain psychological wellbeing in changed circumstances.

RESULTS

By November 2021, 264 employees from different occupational groups had participated in group sessions. Over a one-year period from November 2020 to November 2021, 45 calls were recorded, which then became a ticket for a personal interview. In the period from June to November 2021, we conducted 60 individual counseling sessions. The predominant reasons for seeking help were anxiety, fear of infection, denial, anger at the situation, coping with stigma, insomnia, exhaustion, and depressive symptoms. Workers experienced stress after recovering from COVID-19 ("I'm not the same as I was before."). The typical help-seeker was a female registered nurse between 40 and 50 years old.

DISCUSSION

Two years after the pandemic began, two of us are continuing to provide free psychological support to Ljubljana University Medical Center employees. Professional help is provided to individuals and groups, with a guarantee of anonymity, confidentiality, and safety. We still do not know to what extent the mental distress caused by the effects of the pandemic will manifest itself in the future. The support measures for staff at the time of their launch were appropriate, timely, and very well received by users, and provided an excellent foundation for the establishment of a longer-term form of support to maintain and enhance the mental health of staff in the face of the various challenges of their professional and private life.

Keywords:
pandemic, COVID-19, healthcare workers, psychological support, mental health

PSIHOSOCIALNI DEJAVNIKI IN INDEKS DELOVNE ZMOŽNOSTI PRI STEKLOPIHALCIH (PRIMERJAVA INDEKSA MED LETI 2017 IN 2021)

PSYCHOSOCIAL FACTORS AND THE WORK ABILITY INDEX IN GLASSBLOWERS (COMPARING THE 2017 AND 2021 INDICES)

Sabina Mataln¹, dr. Tihomir Ratkajec²

¹ ZD Sevnica, Sevnica, Slovenija

² Medicina dela Rogaška d.o.o., Rogaška Slatina, Slovenija
motoh.sabina@gmail.com

IZHODIŠČE

Delovna zmožnost je ravnovesje med zahtevami dela in individualnimi zmožnostmi delavca. Nanjo vplivajo številni dejavniki. V sodobni družbi enega največjih izzivov za varnost in zdravje pri delu predstavljajo psihosocialni dejavniki tveganja in stres, povezan z delom, ter staranje delovne populacije. Ena izmed najpogosteje uporabljenih metod za ocenjevanje delovne zmožnosti je indeks delovne zmožnosti (IDZ), ki omogoča zgodnje odkrivanje rizičnih skupin delavcev in predstavlja osnovo za načrtovanje ukrepov na delovnih mestih.

Primarni cilj raziskave je določiti delovno zmožnost in psihosocialne dejavnike dela pri zaposlenih v podjetju Steklarna Rogaška d.o.o in na podlagi rezultatov raziskave spremljati skupino delavcev, ki je najbolj ogrožena. Sekundarni cilj je primerjati spremembe delovne zmožnosti in psihosocialnih tveganj pri steklopihalcih v 4-letnem obdobju. Drugi podcilj je oceniti vpliv starosti in psihosocialnih dejavnikov dela na IDZ.

METODE

Delovno zmožnost in psihosocialne dejavnike tveganja na delovnem mestu smo merili s pomočjo standardiziranih vprašalnikov. V prvem delu raziskave, ki je potekala junija 2017, je bilo v raziskavo vključenih 575 delavcev v podjetju. V drugem delu raziskave, ki je bila opravljena junija 2021, je vzorec za raziskavo predstavljala skupina 45 steklopihalcev, ki so bili še vedno zaposleni na enakem delovnem mestu kot junija 2017. Rezultate smo statistično analizirali z uporabo t-testa za odvisne vzorce oziroma enofaktorske analize variance ter Pearsonovega korelacijskega koeficienta. Vrednost $p < 0,05$ je določala mejo statistične značilnosti.

REZULTATI

Raziskava je pokazala, da se je IDZ statistično značilno znižal s povečanjem starosti pri vseh zaposlenih. Visoke zahteve na delovnem mestu so negativno vplivale na IDZ, medtem ko sta velik nadzor nad svojim delom in velika socialna podpora pri delu pozitivno vplivala na IDZ pri vseh zaposlenih. Pri primerjavi rezultatov glede IDZ in psihosocialnih dejavnikov tveganja na delovnem mestu pri steklopihalcih v letu 2021 glede na leto 2017 smo ugotovili, da se je IDZ statistično značilno zmanjšal ($t= 2,219$; $p= 0,032$). Ob tem so se pri steklopihalcih v letu 2021 glede na leto 2017 statistično značilno povečale zahteve pri delu ($t= 2,088$; $p= 0,043$).

RAZPRAVA

Raziskava prispeva k razširitvi znanja o dejavnikih, ki verjetno vplivajo na delovno zmožnost steklopihalcev in drugih delavcev v steklarski industriji. Na podlagi rezultatov raziskave smo predlagali ukrepe za ohranjanje in izboljšanje delovne zmožnosti pri steklopihalcih. Zaradi pomanjkanja raziskav, ki bi specifično preučevale delovno zmožnost in psihosocialne dejavnike tveganja pri steklopihalcih, svojih ugotovitev ne moremo primerjati z drugimi raziskavami. Potrebne bodo nadaljnje analitične študije za dokaz vzročne povezave med psihosocialnimi dejavniki dela in njihovim vplivom na IDZ pri steklopihalcih.

Ključne besede:
delovna zmožnost, indeks delovne zmožnosti, staranje delovne sile, psihosocialna tveganja, steklopihalci

BACKGROUND

Work ability is a balance between how demanding the work is and the individual worker's capabilities. Numerous factors affect it. In contemporary society one of the greatest challenges for health and safety at work is psychosocial risk factors, work-related stress, and workforce aging. One of the most frequently used methods for assessing work ability is the work ability index (WAI), which makes possible early detection of high-risk groups of workers and forms a basis for planning improvements at the workplace. This study examined work ability and psychosocial work factors at work among all employees at Steklarna Rogaška d.o.o. and on the basis of the results compared changes in work ability and psychosocial risks among glassblowers over a 4-year observation period.

METHODS

Work ability and psychosocial risk factors at work were assessed using standardized questionnaires. A total of 575 employees at the company were included in the first part of the study, which took place in June 2017. The second part of the study, which took place in June 2021, involved a representative sample of 45 glassblowers that were still working in the same positions as in June 2017. The results were statistically analyzed using a t -test for dependent samples or a one-factor analysis of variance, and Pearson's correlation coefficient. Statistical significance was set at $p < 0.05$.

RESULTS

The study showed a statistically significant decrease in WAI with age in all employees. More demanding work had a negative effect on the WAI, whereas having a lot of autonomy in their own work and significant social support at work had a positive impact on the WAI in all employees. In comparing the results of WAI and psychosocial risk factors at work in glassblowers in 2021 to those from 2017 it was determined that the WAI showed a statistically significant decrease ($t = 2.219$; $p = 0.032$). At the same time, the difficulty of glassblowers' work showed a statistically significant increase in 2021 compared to 2017 ($t = 2.088$; $p = 0.043$).

DISCUSSION

This study expands understanding of the factors that likely affect work ability in glassblowers and other glassworkers. The study results were used as a basis for recommending measures to maintain and improve work ability in glassblowers.

Keywords:

work ability, work ability index, workforce aging, psychosocial risk, glassblowers

NEUDOBJE V GIBALIH PRI BOLNIČARJIH V ŠTIRIH DOMOVIH ZA STAREJŠE OBČANE IN UPORABA POVRŠINSKE MIOGRAFIJE

POSTURAL DISCOMFORT IN NURSE CAREGIVERS AT FOUR RETIREMENT HOMES AND THE APPLICATION OF SURFACE ELECTROMYOGRAPHY

Davor Romih¹, dr. Tihomir Ratkajec, dr. med.²

¹ Medicinski center Krka d.o.o., Novo mesto, Slovenija

² Medicina dela Rogaška d.o.o., Rogaška Slatina, Slovenija

davor.romih@gmail.com

IZHODIŠČE

Namen predstavljenega dela je na osnovi subjektivnih ter merskih metod dela ugotoviti tveganje za pojav bolečine v predelu ramenskega sklepa ter ledvenega predela hrbtenice pri bolničarjih negovalcih. Hkrati smo želeli ugotoviti vpliv ergonomskih ukrepov oziroma njihovo opuščanje na aktivnost mišic (m. erector spinae in m. deltoideus).

METODE

Oceno neudobnega počutja v gibalih smo ocenjevali po metodi Bishop in Corlett. Skupaj smo razdelili 160 vprašalnikov o oceni neudobja v gibalih. Vrnjenih in analiziranih je bilo 142 vprašalnikov, kar pomeni, da je bila stopnja osipa le 11,3 %.

Za pridobivanje podatkov o mišičnih aktivnostih smo uporabili površinski EMG signal mišic erector spinae in deltoideus pri sedmih preiskovancih. Povprečno mišično aktivnost smo primerjali glede na maksimalno hoteno kontrakcijo.

REZULTATI

Največje neudobje navajajo oziroma občutijo preiskovani delavci v predelu ledvenega predela hrbtenice, sledita zgornji del hrbta in vratni predel hrbtenice. Analiza podatkov meritev površinske elektromiografije proučevanih mišic je pokazala, da se pri opustitvi osnovnih ergonomskih načel (višina postelje 10 cm spuščena glede na antropometrijski standard posameznega delavca) statistično značilno poveča aktivnost m. erector spinae ($p=0,016$), medtem ko uporaba ograje na postelji ne prestavlja nižje mišične aktivnosti ($p=0,125$ do $0,97$). Na aktivacijo deltoidnih mišic ne vplivata ne višina postelje ($p=0,078$ do $p=1,00$) in

Ključne besede:

površinska elektromiografija, ocena neudobnega počutja, ergonomija

tudi ne spuščena ali dvignjena zaščitna ograja postelje ($p=0,047$ do $p=0,33$). Ne glede na to pa izmerjene vrednosti kažejo, da se bo najverjetneje pri opuščanju ergonomskih pravil dela pri negi oskrbovancev pojavila utrujenost v m. erector spinae. Hkrati smo ugotovili, da lahko v realnih pogojih dela, ne glede na upoštevanje ergonomskih principov dela, pri posameznikih, ki opravljajo nego, pričakujemo pojavljanje utrujenosti v deltoidnih mišicah (mišicah ramenskega sklepa).

BACKGROUND

The purpose of this study was to use subjective and measurement methods to determine the risk for the occurrence of pain in the shoulder joint and low back in nurse caregivers. At the same time it sought to determine the impact of ergonomic measures or their absence on muscle activity (the erector spinae and deltoid).

METHODS

Postural discomfort was assessed using scales by Bishop and Corlett. A total of 160 postural discomfort questionnaires were distributed, of which 142 were returned and analyzed. This means that the drop-out rate was only 11.3%. Surface electromyography (EMG) of the erector spinae and deltoid muscles were used to collect data on muscle activity in 7 research subjects. The average muscle activity was compared with the maximum voluntary contraction.

RESULTS

The workers in this study perceived the most discomfort in the lumbar area, followed by the upper back and the neck. Analysis of the surface EMG muscle measurements showed that when basic ergonomic principles (bed height lowered 10 cm according to the individual worker's anthropometric measurements) are ignored, there is a statistically significant increase in activity of the erector spinae ($p = 0.016$), whereby using the bedrail does not translate into decreased muscle activity ($p = 0.125-0.97$). Neither the bed height ($p = 0.078-1.00$) nor lowering or raising the bedrail ($p = 0.047-0.33$) have any impact on activation of the deltoid muscles. Nevertheless, the values measured indicate that tiredness in the erector spinae muscles is most likely to arise when ergonomic rules for working with residents are ignored. At the same time, we determined that under real working conditions, tiredness in the deltoid muscles (shoulder joint muscles) is to be expected in some individual nurse caregivers, regardless of whether or not they follow ergonomic principles.

Keywords:

surface electromyography, postural discomfort assessment, ergonomics

INDEKS DELOVNE ZMOŽNOSTI PRI ZAPOSLENIH V DOMOVH ZA STAREJŠE OBČANE

THE WORK ABILITY INDEX OF RETIREMENT HOME EMPLOYEES

Jernej Hren¹, dr. Tihomir Ratkajec²

¹ ZD Slovenska Bistrica, Slovenska Bistrica, Slovenija

² Medicina dela Rogaška d.o.o., Rogaška Slatina, Slovenija

jernej.hren@zd-sb.si

IZHODIŠČE

Delovna doba v Sloveniji se podaljšuje, zato nas je zanimalo, kakšna je trenutna delovna zmožnost zaposlenih v domovih za starejše občane in kakšna je ob upoštevanju različnih drugih dejavnikov.

METODE

Vzorec so predstavljali vsi zaposleni petih domov za starejše občane. Podatke smo pridobili s pomočjo vprašalnikov (vprašalnik o demografskih podatkih, psihosocialnih tveganjih na delovnem mestu, izgorelosti na delovnem mestu in indeks delovne zmožnosti). Preverili smo homogenost podatkov in podatke analizirali.

REZULTATI

Negovalno in nenegovalno osebje v domovih za starejše občane se statistično razlikujeta v spolu, povprečni delovni dobi, izmenskem delu, nočnem delu, kajenju, pomanjkanju delavcev in pomanjkanju odmorov. Indeks delovne zmožnosti se s starostjo znižuje, korelacija med starostjo in indeksom delovne zmožnosti je šibka, $r = -0,39$, $p < 0,01$, a je razmerje obetov za zmeren ali slab indeks pri starejših od 50 let $RO = 4,62$ (95% IZ = 2,42–8,79), $p < 0,01$. Razmerje obetov za zmeren ali slab indeks delovne zmožnosti pri izgorelosti na delovnem mestu je $RO = 3,75$ (95% IZ = 2,07–6,8), $p < 0,01$; pri visokih zahtevah na delovnem mestu $RO = 2,55$ (95% IZ = 1,44–4,52), $p < 0,01$; ob slabem nadzoru nad delom $RO = 1,92$ (95% IZ = 1,0–3,55), $p = 0,039$; ob slabi podpori sodelavcev $RO = 2,53$ (95% IZ = 1,42–4,5), $p < 0,01$; pri bolečini v križu v zadnjih 30 dneh pa $RO = 4,09$ (95% IZ = 2,2–7,6), $p < 0,01$. Kajenje ni predstavljalo tveganja za zmeren ali slab indeks delovne zmožnosti $RO = 0,69$ (95% IZ = 0,37–1,29), $p = 0,28$.

Ključne besede:

indeks delovne zmožnosti, staranje, psihosocialni dejavniki, bolečina v križu

ZAKLJUČEK

Indeks delovne zmožnosti zaposlenih v domovih za starejše občane se s starostjo zmanjšuje hitreje kot v nekaterih drugih evropskih državah. Za slab ali zmeren indeks delovne zmožnosti je večja verjetnost ob prisotnosti izgorelosti na delovnem mestu, bolečin v križu in večanju zahtev na delovnem mestu. Manjša verjetnost je ob dobri podpori sodelavcev in nakazano manjša verjetnost pri dobrem nadzoru nad delom.

BACKGROUND

People's working lives are growing longer in Slovenia, and so this study investigates what the current work abilities are of retirement home employees, and what it is when taking various other factors into account.

METHODS

The sample included all employees at five retirement homes. Data was collected using surveys (a survey about demographic details, psychosocial risks at work, burnout at work, and work ability index). The data homogeneity was verified and then the data were analyzed.

RESULTS

Caretaking and other staff at retirement homes vary statistically by sex, average years of service, shift work, night work, smoking, staff shortages, and lack of break time. The work ability index diminishes with age, but the correlation between age and the work ability index is weak: $r = -0.39$, $p < 0.01$. However, the odds ratio for a moderate or poor index for those 50 years of age and over is $OR = 4.62$ (95% CI = 2.42–8.79), $p < 0.01$. The odds ratio for a moderate or poor work ability index with burnout at work is $OR = 3.75$ (95% CI = 2.07–6.8), $p < 0.01$; when the work is more demanding $OR = 2.55$ (95% CI = 1.44–4.52), $p < 0.01$; when the worker lacks autonomy $OR = 1.92$ (95% CI = 1.0–3.55), $p = 0.039$; when coworkers are unsupportive $OR = 2.53$ (95% CI = 1.42–4.5), $p < 0.01$; and if low back pain has been present in the past 30 days $OR = 4.09$ (95% CI = 2.2–7.6), $p < 0.01$. Smoking is not a risk for a moderate or poor work ability index: $OR = 0.69$ (95% CI = 0.37–1.29), $p = 0.28$.

CONCLUSION

The work ability index for retirement home workers diminishes more quickly with age than in some other European countries. Burnout in the workplace, low back pain, and more demanding work increase the probability of a poor or moderate work ability index. There is lower probability if there is good support from coworkers and an implied lower probability when there is good autonomy at work.

Keywords:

work ability index, aging, psychosocial factors, low back pain

