Musculoskeletal disorders

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IDENTIFICATION OF WORK RELATED MUSCULOSKELETAL DISORDER AMONG ARTISANS OF DHOKRA BELL METAL HANDICRAFT INDUSTRY OF INDIA

Avinash Sahu, Sangeeta Pandit, Rajat Kamble, Bangaru Sai Prakash. Ergonomics Lab, Design Discipline Indian Institute of Information Technology Design and Manufacturing Jabalpur, India

Introduction Artifacts manufactured by Bell metal casting process is one of the traditional handicraft industries of India known as Dhokra craft. This craft work is recognized worldwide for its unique metal craftsmanship, ornamentation and sculpting process. Due to commercialization, long hours of strenuous, repetitive nature of work in traditional workstations with conventional hand tools exposed the artisans to Work-related musculoskeletal disorders (WRMSDs). This study aims to identify the causes of the prevalence of muscular discomfort among artisans in bell metal handicraft industry of India.

Material and Methods 119 artisans participated in this study, which was divided into two phases Phase I Identification and quantification of the occupation risk factors in the manufacturing process of Dhokra artifacts with the help of Rapid upper limb assessment (RULA) questionnaire, modified Nordic questionnaire and Body part discomfort (BPD) mapping technique. Phase II As Dhokra craft is a hand crafting process, biomechanical study (pinch strength and hand grip strength) was conducted before and after the activity to identify the hand related issues among the artisans.

Results The analysis revealed that artisans faced posture-related MSDs during crafting activities. With the comparison of Nordic and BPD data it shows the artisan feel high level of discomfort in their hand (88.23%) and Forearm (82.35%) region in initial hours of work. Similarly in crafting activities, significant difference in hand grip strength (p<0.04) and Tip pinch strength (p<0.003) was identified between manual precision based pre and post activities.

Conclusions Through analysis and observation of the result it was concluded that artisan’s health mostly affected by improper body posture and commercial workload. The crafting process exposed artisans to occupational related health issues, accident and injuries. Moreover, it suggested that ergonomics intervention in tool and work process design is the need of the hour to prevent MSDs.

Psychological hazards/Health

**P-265**
IMPACT OF PSYCHIATRIC DISORDERS ON MEDICAL FITNESS FOR WORK IN THE MILITARY FIELD

Amani Dallagi, Salma Kamoun, Olfa Jlassi, Abir Ayadi, Adel Amri. Military Center for Occupational Medicine and safety, General Directorate of Military Health, Tunisia

Introduction Psychological adjustment is an essential component of meeting national service goals, which makes many psychiatric disorders incompatible with armed service. The purpose of our study was to estimate the prevalence of psychiatric disorders in military personnel and to assess their impact on medical fitness for work.

Material and Methods Retrospective descriptive study conducted at the Military Center for Occupational Medicine and Occupational Safety (MCOMOS) between 2018 and 2021 among active military personnel.

Results The study included 169 male patients with a mean age of 41.89 ± 9.18 years. They were military personnel divided into officers (13.6%), non-commissioned officers (61.1%) and enlisted men (24.1%), mainly occupying the position of infantry soldier (15%), gunner (9.2%) and artillery (3%). They suffered mainly from tinnitus (60.2%), hypacusis (40%) and dizziness (12.4%). The diagnosis of bilateral sensorineural hearing loss was retained in 132 soldiers (78.1%). In 21.9%, otitis media was diagnosed. Among them, 2% had a barotrauma. This deafness was considered an occupational disease and justified a workstation adjustment in 78.1% of cases. An eviction from gunfire and noise was granted for 78.1% of the soldiers.

Conclusion The noise of firearms, explosions, air and ground vehicles make so much noise that hearing loss is one of the most common disabilities in the military. This justifies the importance of personal protective equipment to further protect the ears of military personnel and the role of the occupational physician in the early detection of hearing disorders.

Noise

**P-264**
HEARING IMPAIRMENT AMONG ACTIVE MILITARY PERSONNEL

Amani Dallagi, Salma Kamoun, Olfa Jlassi, Abir Ayadi, Adel Amri. Military Center for Occupational Medicine and Occupational Safety, Directorate General of Military Health, Tunis, Tunisia

Introduction Noise is a widespread nuisance in the workplace, present in many professional sectors including military workplaces. Due to their activities, military personnel are at high risk of sudden hearing loss. For example, the level of sound produced by an assault rifle shot can reach 160 decibels, as reported in various studies. Our objective is to study the prevalence of hearing impairment in active military personnel and to evaluate the impact on medical fitness for work.

Material and Methods Retrospective descriptive study conducted among active military personnel. Occupational and medical data were collected from the medical records of patients who consulted at the Military Center for Occupational Medicine and Occupational Safety (MCOMOS) during the period 2018–2022.

Results The study included 169 male patients with a mean age of 41.89 ± 9.18 years. They were military personnel divided into officers (13.6%), non-commissioned officers (61.1%) and enlisted men (24.1%), mainly occupying the position of infantry soldier (15%), gunner (9.2%) and artillery (3%). They suffered mainly from tinnitus (60.2%), hypacusis (40%) and dizziness (12.4%). The diagnosis of bilateral sensorineural hearing loss was retained in 132 soldiers (78.1%). In 21.9%, otitis media was diagnosed. Among them, 2% had a barotrauma. This deafness was considered an occupational disease and justified a workstation adjustment in 78.1% of cases. An eviction from gunfire and noise was granted for 78.1% of the soldiers.