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Remote work during Covid-19 pandemic: The prevalence of musculoskeletal pain in Latvian employees

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Introduction. Covid-19 restrictions in the spring of 2020 brought huge changes in the work environment and increased the ergonomic and psychosocial factors’ importance for remote and on-site workers. This study aimed to analyse the prevalence of musculoskeletal pain in Latvian employees, focusing on a change in the work environment because of remote work.

Material and Methods. The results of an online structured survey conducted in October of 2020 among Latvian employees (n = 1037) from the State Research Programme “Covid-19 mitigation” project were analysed. The presence of musculoskeletal pain in at least one body region (lower back, neck, hands, legs) during previous year was an outcome of the research. The programme IBM SPSS 26 was used for descriptive data analysis.

Results. A higher prevalence of musculoskeletal pain was observed among women (35.0 vs 22.8%); employees who started to work remotely during Covid-19 (37.1 vs 26.4%), and employees with working hours >10 per day (48.6 vs 32.2%). One-fifth (19.2%) of employees felt anxiety during remote work associated with new work and living environment, and almost half of them also experienced musculoskeletal pain. A higher prevalence of pain was among workers who did not change working hours despite the necessity and ignored work and family care balance during the remote work period. Also, half (49.7%) of employees whose remote workplace wasn’t convenient and suitable for work with a computer experienced pain.

Conclusions. Ergonomic and work organisation failures in remote work associated with higher musculoskeletal pain prevalence in employees than demographic factors.

Remote workers’ perceived health during the COVID-19 pandemic: a mixed methods study of influencing factors

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Introduction: For many workers, the COVID-19 pandemic resulted in an unexpected overnight switch to remote working. Initial studies conducted during the pandemic indicated that remote workers had poorer health levels than those that remained within their workplaces. Few studies have explored the reasons for this. The current study aimed to determine if workers who had the facility to work remotely during the first year of the pandemic had experienced a change in their perceived health levels and their reasons for this.

Material and Methods: An online questionnaire that included both open and closed-ended questions was distributed to the workers of 15 organisations within the IT and communications sector in Malta (N = 459). Qualitative data were analysed via Thematic Analysis.

Results: 44% reported that their health had not changed during the first year of the pandemic when compared to the previous year, 33% felt their health had regressed, whilst 23% felt it had got better. In terms of those who reported a change, the reasons for this were linked to five themes: General determinants of health, such as physical activity and nutrition; the development of diseases and disorders, including common mental health disorders; work-related determinants of health, such as social contact and the working environment; pandemic-specific factors, including COVID-19 restrictions; and personal factors, such as caring for children.

Conclusions: Remote workers’ health was influenced by a multitude of factors that included those related to work, health behaviours, the situation at home and the wider social environment.

The Relationship Between Occupational Safety and Health and Occupational Health in the fight against COVID-19 in Schools: The case of Teachers in Botswana

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Introduction: Botswana has 828 schools with 30,000 teachers. When COVID-19 broke out schools were ill-prepared to deal with the infections. This paper examines the relationship between Occupational Safety and Health and Occupational Health in the fight against COVID-19 and the impact it has had on teachers. Occupational Safety and Health (OSH) and Occupational Health (OH) are critical factors in ensuring the safety and health of employees and in reducing the risks of contracting COVID-19 by teachers in schools. The fight against COVID-19 in schools has been a major challenge in Botswana due to inadequate OSH instruments that can be used in Occupational Health to provide services for teachers. A survey that randomly sampled 10% of urban and rural schools from August 2021 to January 2022.

Methods:

1. Observational study based on a 10% sample of schools in urban and rural areas.
2. Examination of official COVID-19 statistics compiled during the pandemic
3. Assess the strength and weakness of the available legislation (the latest version of Factories Act enacted in 1973).

Results: A good number of teachers in Botswana contracted COVID-19 and many more were affected through the loss of life. The study is expected to yield the following results:

- Whether sampled schools were properly designed (the existence of OSHMS) Hierarchy of controls, Risk Management Plans and adherence to health protocols.
- Increased number of infected teachers.
Effects of face masks on physical performance, physiological response and subjective respiratory effort during a submaximal bicycle ergometer test

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Introduction: Evidence on undesirable side effects of face masks worn during the COVID-19 pandemic is controversial. Materials and Methods: The present study, explores whether wearing a medical face mask (MedMask) affects physical working capacity (PWC) at the heart rate of 130 and 150 beats per minute in comparison to no mask, a filtering face piece mask with exhalation valve class 2 (FFP2exhal), and a cotton fabric mask (community mask). Secondary, physiological and subjective responses were analyzed such as a potential moderating role of subjects’ individual physical fitness level and gender on face mask effects. A submaximal bicycle ergometer protocol was applied in an intra-individual cross-over design using either no mask, a MedMask, FFP2exhal, or a community mask on four days in randomized order. PWC130 and PWC150 were measured as well as transcutaneous carbon dioxide partial pressure, oxygen saturation, breathing rate, blood pressure, perceived respiratory effort and perceived physical exhaustion. Results: Using the MedMask did not lead to a reduction in PWC and a systematic or relevant change in physiological response, neither was this the case when the FFP2exhal or community mask were worn. Perceived respiratory effort was up to one point higher on a zero to ten scale when using face masks p<0.05) compared to the no mask condition. No differences occurred in general perceived exertion. Conclusion: These results provide reason to believe that physical performance and physiological responses when wearing face masks are similar to not wearing a face mask, although some more respiratory effort is required.

A model proposal to ensure the health maintenance in a Colombian University during the Pandemic Covid-19

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Introduction: The Covid-19 Pandemic had caused a worldwide crisis leading to many negative consequences on healthy habits, biomechanical system, and mental health to students and workers. The National University is the main University in Colombia; it has around 30.000 students and 10.000 workers. Due to the Pandemic, many workers had to work from home, which generated consequences that had to be interrupted. Material and Methods: Through the application of many virtual surveys, we could choose the main topics to be included in this strategy. Finally we selected the next ones and worked on them from our office:

- biomechanical, due to the new physical ergonomics conditions.
- psychosocial, related to many factors as epidemic Pandemic behavior, new family issues at home, addictions, etc.
- nutrition facts, because of inadequate eating habits.
- cardiovascular, due to the aspects listed above, and sedentary lifestyle.
- occupational health facts, remembering the importance of preventing work-related injuries.

Results and Conclusions: Many employees and students at our university had been highly motivated to go back on having healthy habits, which, in some cases have had a positive impact on their families; who have been sharing the same home space with the workers during the Pandemic. According to the intervention developed by our Occupational Health Office, in alliance with the University’s Faculty of Medicine, we are improving our workers lifestyle, which will have positive impacts on them and their families. It represents such an important aspect that will ameliorate our community public health results.

Conception of ergonomic interventions and challenges during Covid-19 pandemic

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Introduction: The Covid-19 pandemic shifted ergonomists’ focus from work optimization to health-related interventions. For over a year, safety measures were primarily linked to limitation of infection with the new coronavirus. The paper aims to propose a framework for conception and evaluation of ergonomic interventions and to present major challenges faced in implementation of the framework during the pandemic. Material and Methods: The proposed framework comprises comprehensive methodology for assessment of physical environment parameters and ergonomic risks, and proposal of solutions. Methods used are RNUR, software solution based on REBA and OWAS and proposed methodology for physical environment assessment based on ISO standards and Romanian standards for determination of noise, dust, lighting and microclimate. Analysis of key challenges faced during implementation and potential causes are also presented in a dedicated section. Results: The framework was applied for development of ergonomic interventions in two companies. The most prominent risks identified were noise, uncomfortable postures, standing, manual load handling (lifting, pushing, dragging, carrying), torso twisting/bending. Conclusions: The Covid-19 pandemic negatively impacted the success of implementing participatory ergonomics principles, imposing the need to re-adjust strategy and find creative solutions.