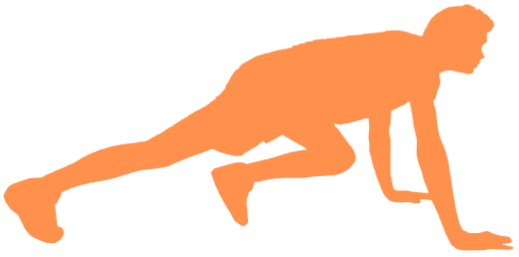

Final conference of COVIDMOVE project

UNIVERZITA MATEJA BELA V BANSKEJ BYSTRICI

BELIANUM

2024

Final conference of COVIDMOVE project

Collection of abstracts

The movement activity enhancement after the COVID19 pandemics

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Content

COVIDMOVE physical activity projects

International Conference on Movement 2024

September 25, 2024, Banská Bystrica

The International Conference on Movement 2024 stands as multifaceted dimensions of movement and its critical influence on health and well-being. This year, the conference takes on added significance as it showcases a special collection of abstracts dedicated to the *COVIDMOVE Physical Activity Projects*. This unique initiative underscores the essential role of physical activity in navigating and mitigating the far-reaching challenges posed by the COVID-19 pandemic.

The COVID-19 pandemic fundamentally reshaped the global landscape of physical activity and public health. Lockdowns, social distancing mandates, and widespread closures of recreational and fitness facilities placed unprecedented restrictions on how people moved, exercised, and engaged with their communities. These disruptions underscored the urgent need for innovative approaches to maintaining and enhancing physical activity levels. The *COVIDMOVE* initiative emerged in this context as a vital response, fostering new strategies and solutions to support active lifestyles despite the constraints.

By bridging disciplines, engaging diverse stakeholders, and leveraging cutting-edge research, *COVIDMOVE* has charted a new path for physical activity promotion after this crisis. It addresses not only the immediate challenges of restricted mobility but also the long-term implications for health and well-being. The initiative's focus on adaptability, inclusivity, and sustainability has set a benchmark for how communities and institutions can respond to future global health emergencies.

This collection of abstracts reflects the breadth and depth of the *COVIDMOVE* initiative, featuring innovative projects and research from varied global contexts. It highlights a range of approaches, from the development of digital tools and platforms to enhance accessibility, to the creation of community-driven programs tailored to specific populations, including older adults, children, and individuals with disabilities. These abstracts collectively demonstrate how creativity, evidence-based practices can increase level of physical activity.

As we gather in Banská Bystrica - a city celebrated for its cultural richness, historical depth, and dynamic energy of the sport - we are reminded of the importance of place and community in shaping the conversations around movement and health. This conference provides a unique opportunity to share knowledge, exchange ideas, and inspire actions that will influence future research, policy, and practice.

The COVIDMOVE project highlights the importance of physical activity as an integral part of a healthy lifestyle, particularly in the context of the COVID-19 pandemic. Regular exercise offers numerous benefits that address health and psychological issues exacerbated by the pandemic. One of the most significant benefits is the enhancement of immunity. Physical activity strengthens the immune system, promotes better blood circulation, and facilitates the efficient distribution of immune cells, helping the body fight infections more effectively. Another key area is the positive impact on mental health. The pandemic has led to increased levels of anxiety, depression, and stress, but exercise, as a natural source of endorphins, helps alleviate these symptoms. Physical activity improves mood and provides a healthy way to manage stress. It also aids in managing chronic conditions such as diabetes, obesity, and cardiovascular diseases, which increase the risk of severe COVID-19 complications. Regular exercise enhances heart health, insulin sensitivity, and maintains a healthy weight. An important benefit is the improvement of lung health and respiratory function. The COVIDMOVE project also addresses the rise in sedentary behavior during lockdowns, which increases the risk of musculoskeletal disorders and poor circulation. Supporting regular movement helps mitigate these negative consequences. Beyond health benefits, physical activity positively impacts social connections. Through group activities and community events, the COVIDMOVE project fosters a sense of belonging and reduces social isolation, which was a common issue during the pandemic. Safe outdoor activities also allow participants to engage with others while adhering to health guidelines. Physical activity also improves cognitive functions, such as memory, concentration, and overall mental performance, which helps combat the so-called "pandemic brain fog." Additionally, exercise is a crucial part of rehabilitation after recovering from COVID-19, as it helps restore muscle strength, boosts energy levels, and reduces fatigue. The COVIDMOVE project focuses on raising awareness of these benefits through educational campaigns, providing tailored exercise programs for various groups, and offering accessible resources such as online training sessions and community challenges.

PhDr. Dávid Líška, PhD.

Movement as a tool for disease prevention and treatment

Líška D.

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Abstract

Physical activity serves as a cornerstone in both the prevention and management of chronic diseases, representing a non-pharmacological and cost-effective strategy to enhance overall health and well-being. Chronic diseases, including cardiovascular diseases, type 2 diabetes, obesity, osteoporosis, and certain types of cancer, are among the leading causes of morbidity and mortality worldwide. The integration of regular physical activity into daily life has been shown to significantly mitigate the risk of developing these conditions. Beyond prevention, physical activity is critical in the management of existing chronic illnesses, as it helps improve physical function, alleviate symptoms, and enhance overall quality of life.

Engaging in physical activity provides numerous physiological benefits. For instance, it promotes cardiovascular health by improving heart function, reducing blood pressure, and enhancing circulation. In individuals with type 2 diabetes, regular exercise helps regulate blood sugar levels and improves insulin sensitivity. Similarly, for those struggling with obesity, physical activity aids in weight management by increasing caloric expenditure and preserving lean muscle mass during weight loss. Moreover, it strengthens bones and reduces the risk of fractures in osteoporosis patients, while in cancer survivors, physical activity can alleviate fatigue and improve functional capacity.

Various tools and strategies have been developed to promote physical activity and support individuals in achieving consistent engagement. Structured exercise programs are widely implemented in healthcare and fitness settings, offering participants guided regimens tailored to their specific health goals. For example, cardiac rehabilitation programs incorporate aerobic and strength-training exercises designed to improve heart health in patients recovering from cardiovascular events. In addition, wearable fitness trackers and smartwatches have become increasingly popular, providing real-time feedback on metrics such as step count, heart rate, and calories burned. These devices not only track progress but also motivate users through goal setting and gamified challenges. Mobile health applications further extend the reach of physical activity tools, offering features such as exercise tutorials, personalized workout plans, and progress tracking. Many apps also include social features that foster a sense of community and accountability, which are crucial for sustaining motivation. Community-based interventions, such as group fitness classes, walking clubs, and workplace wellness programs, aim to reduce

barriers to physical activity by creating accessible and supportive environments. These initiatives are especially valuable in underserved areas, where opportunities for structured physical activity may be limited. Tailoring physical activity interventions to meet individual needs, preferences, and capabilities is critical for long-term adherence. Factors such as age, fitness level, medical history, and personal interests must be considered when designing programs. For example, older adults or individuals with limited mobility may benefit from low-impact activities such as yoga, swimming, or chair-based exercises, while younger, more active individuals might prefer high-intensity interval training (HIIT) or team sports. Addressing these individual differences not only increases participation but also ensures that physical activity is both enjoyable and effective.

Emerging technologies are revolutionizing the ways individuals engage in physical activity. Virtual reality (VR) platforms and online fitness classes have opened new avenues for exercise, particularly for individuals who face barriers such as geographic isolation or time constraints. VR-based workouts provide immersive and interactive experiences that can make physical activity more appealing, while online platforms offer flexibility, allowing users to access exercise routines from the comfort of their homes. These technologies, coupled with advances in artificial intelligence, are paving the way for highly personalized and adaptive fitness programs. Public health initiatives play a pivotal role in integrating physical activity tools into broader healthcare strategies. Programs that encourage physical activity through education, subsidies for fitness memberships, or improved access to recreational facilities have the potential to drive widespread behavioral change. Collaborations between healthcare providers, fitness industries, and policymakers are essential to ensure that these initiatives reach diverse populations and address disparities in access to resources. Physical activity is a powerful tool in combating the global burden of chronic diseases. By leveraging a range of innovative tools and strategies, individuals and communities can embrace healthier lifestyles and improve overall well-being. Continued efforts to enhance accessibility, personalization, and integration of physical activity into healthcare systems are essential to maximizing its benefits. As the field evolves, interdisciplinary collaborations and ongoing research will be key to developing effective, equitable solutions that empower individuals to take control of their health through movement.

Keywords: physical activity, movement, COVIDMOVE

The role of physical activity in the prevention of liver diseases

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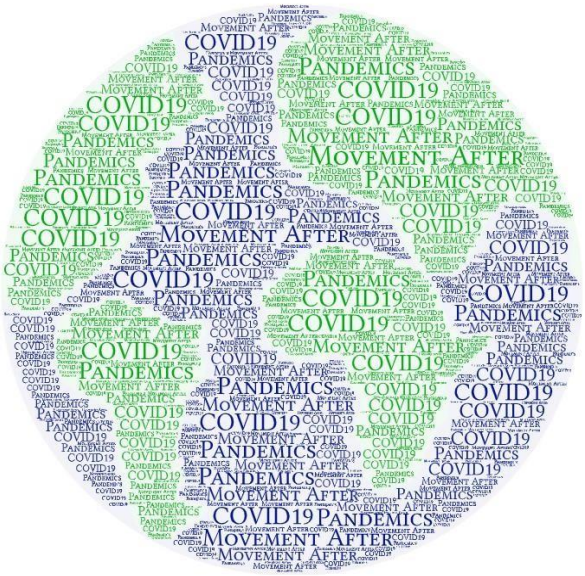
Abstract

Non-alcoholic fatty liver disease (NAFLD) has become a major global health concern, with prevalence rates now reaching an alarming 32% worldwide. This makes NAFLD one of the fastest-growing liver conditions, surpassing alcohol-related liver disease (ARLD) in terms of impact on public health. The disease is strongly associated with metabolic disorders, obesity, and sedentary lifestyles, which have become even more pronounced due to the societal shifts following the COVID-19 pandemic. NAFLD can lead to serious health complications, including liver cirrhosis, hepatocellular carcinoma, and increased cardiovascular risk, further emphasizing the urgency of addressing this growing epidemic. In contrast, ARLD remains a significant concern, especially in regions where alcohol consumption is prevalent, but it is NAFLD that has seen the most rapid increase in incidence across both developed and developing nations. The chronic nature of these diseases presents significant challenges to healthcare systems, especially as patients may remain asymptomatic until advanced stages of liver damage occur. Regular physical activity offers a highly effective intervention to prevent the progression of both NAFLD and ARLD. Physical activity plays a crucial role in improving insulin sensitivity, reducing inflammation, and promoting weight management, which are key factors in preventing liver fat accumulation and fibrosis. Furthermore, exercise has been shown to reduce the risk of sarcopenia and frailty, a conditions frequently linked to liver disease which in turn helps maintain muscle mass and functional capacity. The role of physical activity in modulating systemic inflammation and its impact on liver health is well-documented, with several studies demonstrating significant improvements in liver function tests among individuals who engage in consistent exercise routines. Intervention aimed at increasing physical activity must be multi-faceted, addressing both individual and societal barriers to participation. Public health campaigns, community-based programs, and targeted interventions in high-risk populations are essential to reversing the current trends. In the context of liver disease, incorporating regular physical activity into daily routines could not only prevent disease onset but also improve outcomes for those already affected by liver conditions.

Promoting regular exercise is essential not only for preventing liver diseases such as NAFLD and ARLD but also for improving overall health outcomes and reducing the burden on healthcare systems.

Keywords: physical activity, NAFLD, liver disease prevention, ARLD, obesity, sarcopenia, inflammation, COVID-19, public health.



Physical activity, mitochondria and the relationship to low physical activity after the COVID19 pandemic

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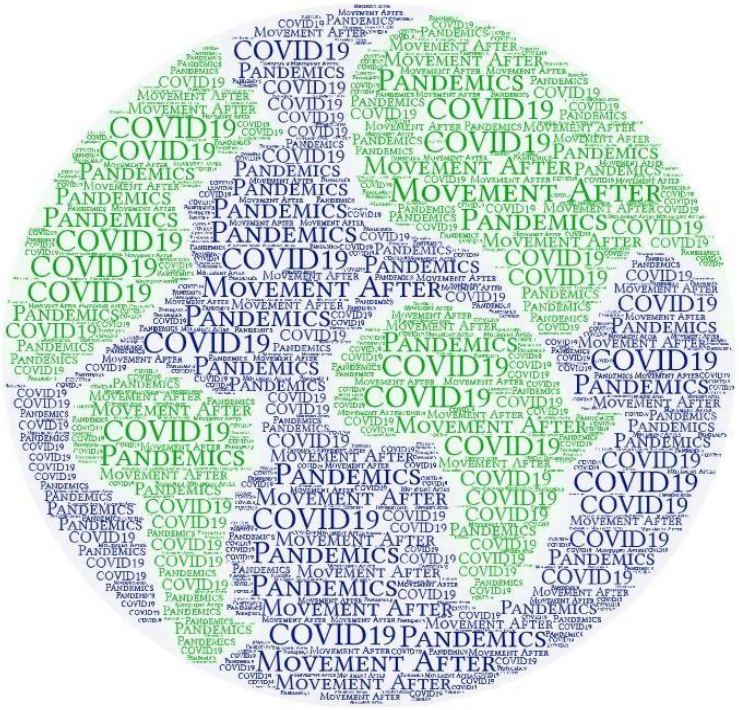
Abstract

Physical activity is one of the most important factors affecting human health. From a biochemical point of view, it includes complex processes affecting the energy metabolism associated with the activation of cellular signaling from the point of view of energy production, the mechanism of action of hormones, the formation of free radicals and antioxidants. Physical exercise stimulates the mTOR pathway, the activation of which is a response to the consequences of mechanical stress, leading to adaptation and overall muscle hypertrophy. The regularity of aerobic activities stimulates the cells to demand energy. To meet these demands, cells must increase the number of mitochondria, by a mechanism of biogenesis, induced by the activation of AMPK-protein kinase and PGC-1α, a key transcriptional cofactor. PGC-1α increases the capacity of mitochondria for oxidative metabolism by promoting more efficient use of oxygen and energy substrates such as glucose, fatty acids or amino acids. Mitochondria are the "energy factories" of cells producing adenosine triphosphate (ATP), the main energy molecule used by cells to drive all biochemical processes in the organism. On the other hand, pro-oxidant molecules (ROS), cytokines TNF-α and IL-6 arise in these organelles during metabolic processes of intense activity, as a reaction to oxidative stress, damaging cellular components including DNA, proteins and lipids, which can lead to muscle damage cells and thus contribute to fatigue, inflammatory processes, to the acceleration of cell aging and the development of chronic diseases. Sarcopenia and mitochondrial aging is a closely related phenomenon, related to the gradual loss of muscle mass and strength, which has a significant impact on physical fitness, tissue regeneration and overall health. Regular physical activity stimulates the production of antioxidant substances superoxide dismutase (SOD), catalase, glutathione, which help to neutralize ROS and minimize their harmful effects. Movement leads to the adaptation of cells to oxidative stress, which makes the organism better able to cope with the production of ROS. The end sections of chromosomes - telomeres - also play a protective role in the process of aging and cell health. Aerobic activity slows down the shortening of telomeres, which is reflected in the reduction of inflammatory markers and attenuation of cell

senescence and apoptosis. From the mentioned facts, it follows that movement is key to maintaining health, physical performance and longevity, while it also has a significant impact on the prevention and treatment of many civilizational diseases.

Keywords: physical activity, mitochondria



Dance as a tool to increase physical activity

Matulová L.

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Abstract

Given the increasing prevalence of sedentary lifestyles and its adverse impact on physical and mental health, dance is a unique solution that combines artistic and movement elements. Dance is an effective tool to promote physical activity, which has a significant impact on cardiovascular health, muscular strength, endurance and psychological well-being. Regular participation in dance activities, leads to improved aerobic capacity, reduced blood pressure and overall strengthening of the cardiovascular system. In addition, dancing increases muscular strength and endurance, while contributing to the development of coordination. In addition to the physical benefits, dance has a positive impact on mental health as it helps to reduce stress and anxiety levels, thus contributing to improved psychological well-being. Dance therapy has been cited as an effective tool for coping with stress and emotional disorders, thereby improving health itself. In the field of rehabilitation, dance has been shown to improve mobility and muscle strength in patients after injuries or surgery, contributing to faster recovery. Dance is therefore a comprehensive tool for improving both physical and mental health, with the potential to play a significant role in the prevention and treatment of chronic diseases and the promotion of an active lifestyle.

Keywords: dance, physical activity, motor skills

Movement in the prevention of neurodegenerative diseases

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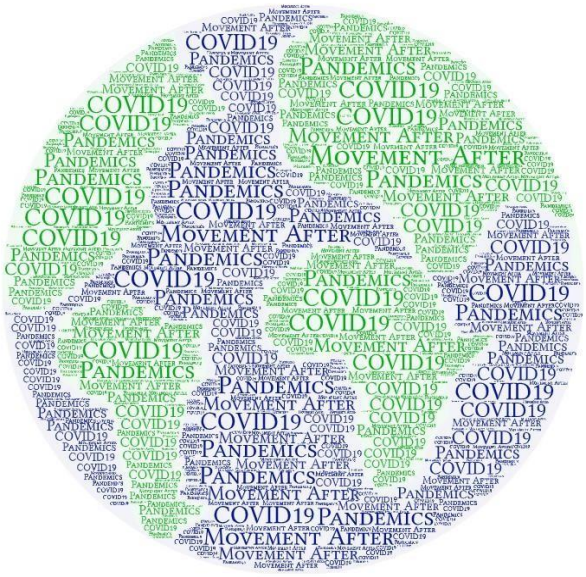
Abstract

This lecture addresses neurodegenerative diseases such as Alzheimer's disease, multiple sclerosis, Parkinson's disease, and amyotrophic lateral sclerosis, which are characterized by the progressive loss of neurons and deterioration of neurological functions. The presentation emphasizes the significance of prevention through physical activity, indicating that regular exercise can reduce the risk of dementia and improve the quality of life for patients with these conditions. The role of stress and fear, which can significantly impact mental and physical health, is also considered.

An important aspect discussed is paradoxical kinesia, which refers to sudden improvements in movement abilities in stressful situations. Additionally, the potential of imagination and exercises conducted during sleep to enhance motor learning and rehabilitation is explored. The author underscores the importance of an internal navigator and the role of intuition in health-related decision-making, suggesting that emotional factors and psychology play a critical role in the prevention and treatment of neurodegenerative disorders.

Keywords: neeurodegenerative diseases, movement, prevention, fear, stress, imaginative exercises



Physical activity in improving symptoms of depression and anxiety after the COVID 19 pandemic

Ivaničová D.

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Abstract

The impact of the COVID-19 pandemic on mental health is considerable. Several studies indicate the impact of the pandemic on the general population in terms of increasing anxiety and depression. One of the non-pharmacological treatment options is kinesiotherapy. The effect of kinesiotherapy in the treatment of psychiatric disorders has been proven by scientific studies but is rarely used in practice. The relationship between physical activity and mental state has been investigated by sports psychologists. For people with anxiety and depression, movement can be a therapeutic tool. The effect of movement therapy on the psychological state can be generally characterized as a reactive, anxiolytic and antidepressant. Aerobic activity has the most significant effect on reducing anxiety and depression. The concept of the "flow" experience contributed to the understanding of the impact of kinesiotherapy on the psyche. It is the experience of immersion in the activity, during which one experiences inner harmony and satisfaction from the performance of the activity without attachment to the result. While the antidepressant effect of physical activity is attributed to the production of endorphins, the anxiolytic effect is caused by a change in the state of muscle tension. Emotional states, in addition to the state of the muscular system, affect the breathing process. In addition to the above effects, physical activity influences body perception through higher afferentation from proprioceptors. From the above-mentioned knowledge for practice, indications of aerobic activity to increase fitness with a "flow" effect, physical activity aimed at adjusting muscle tone, concentration-oriented kinesiotherapy, stability training and breathing exercises follow.

Keywords: anxiety, depression, kinesiotherapy

Dosage of physical activity from the point of view of functional threshold

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Abstract

In the sports activities, sometimes you have to go above your functional threshold, which is state, when you are not able to keep your movement quality, and your joints are not centered. This poor postural control could be one of the causes of pain and dysfunction during physical activities. If the muscular apparatus controlled by the central nervous system is not able to maintain the joints in a centered position, overtime passive structures - ligaments, discs, cartilages may become overloaded. Training of ideal motor control is very important to keep longevity of the movement apparatus. In sport it is much more challenging to keep balance muscle coactivation around the joints, because very often you must go into the maximum active range of motion. if you are above functional threshold, your brain will restore nonideal primitive stabilization strategy which will be similar to newborn child muscle control. Everyone has zone of functional capacity, where the movement quality is sufficient, and the chance of overloading is small. Above functional capacity is functional gap, where you can execute the task, but the movement quality is insufficient, and you are not able to keep you joints centered. Above functional gap is zone of absolute fatigue. Functional threshold is a zone between functional capacity and functional gap and it's very important for us clinically, because in this zone you can load the body very well, but still, you can move with good quality. There are three main loads or challenges to the nervous system that can bring the athlete above their functional threshold: force, duration, speed. In the professional level of sports, you must go sometimes above your functional threshold because the goal is maximum performance, not only health. In the rehabilitation of the patients or training of the normal population, you can use observation of the movement and find individual functional threshold. Then you can load the movement system enough to create positive adaptations but still decrease the risk of injury or overload and during the time, you can also create a bigger zone of functional capacity.

Keywords: dosage of physical activity, overload, threshold training

The principles functional strength and conditioning training after pandemic of COVID19

Sýkora J.

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Abstract

The pandemic of covid-19 affected the population on various levels. From a health and performance perspective research showed a major decrease in performance after suffering covid disease. The aerobic capacity was still decreased by 41% post covid, strength performance was negatively affected as well and there were recorded numerous difficulties with breathing during and after any activity performed. Additionally, any activity performed after the individual recovered from covid was accompanied by higher perceived exhaustion, increased heart rate and prolonged recovery. The covid disease took a huge toll on human performance. It is extremely important to follow several recommendations in order to return to previous performance. The main recommendations include to start slowly with light aerobic activities such as house work or walking, breathing exercises and some form of strength training. Since muscle strength is represented in every single human movement like balancing, moving the body in space, generating the speed or performing any activity during prolonged period, the main role of functional strength training is to prepare the body for the daily activities and sports by performing individualized multi-joint, multi-planar exercises with various loads and speed. Exercises are performed in order to create strength to support the movement pattern, including simple categorization of exercises on full body, upper body, lower body exercises either pushing or pulling movement pattern and specified by the direction and execution by 1 extremities or both. Since the rotational forces are affecting every single limb movement, there is also the categorization of rotational exercises with focus on improving rotational stability – the ability of resist the rotational forces during movement or rotational propulsion – the ability of generate the rotational forces through optimal kinetic linking of the hips, torso and shoulders in order to increase the performance.

Keywords: COVID19, functional training, health, performance, recommendations

Physical activity during pregnancy

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Abstract

Physical activity and rehabilitation play a crucial role in managing pelvic floor dysfunction during and after pregnancy, contributing to both immediate and long-term maternal health. Pregnancy places significant physical and physiological strain on the pelvic floor muscles due to hormonal changes, increased abdominal pressure, and the weight of the growing fetus.

Engaging in regular and targeted physical activity during pregnancy has been shown to be highly beneficial for maintaining pelvic floor strength, supporting postural stability, and enhancing overall physical and mental well-being. Exercises also improve core stability, promote circulation, and reduce stress. These activities help prepare the body for the physical demands of labor and delivery, minimizing the risk of injury to the pelvic floor during childbirth. Rehabilitation strategies are equally essential for preventing and managing pelvic floor dysfunction. These include pelvic floor muscle training (PFMT), guided breathing techniques, and specialized prenatal physiotherapy programs that focus on pelvic alignment and muscle relaxation. Additionally, techniques such as perineal massage, posture correction, and biofeedback can help alleviate symptoms and prevent further complications. Rehabilitation not only addresses physical symptoms but also promotes body awareness and confidence, which are critical for postpartum recovery and long-term well-being. Addressing pelvic floor health during pregnancy is a proactive approach that enhances maternal comfort, improves quality of life, and fosters better outcomes during childbirth and recovery. By incorporating these interventions into routine prenatal care, healthcare providers can reduce the risk of long-term complications such as chronic pain, persistent incontinence, and sexual dysfunction. Education about pelvic floor health should be an integral part of prenatal programs to empower women to take an active role in their health. Future research is necessary to refine rehabilitation protocols and deepen understanding of the complex relationship between pregnancy, physical activity, and pelvic floor function. Exploring individualized approaches to exercise and therapy based on factors such as age, parity, and pre-existence will further improve maternal outcomes. Overall, prioritizing pelvic floor health through physical activity and rehabilitation during pregnancy is a cornerstone of comprehensive maternal care.

Keywords: physical activity, pregnancy, increase of physical activity

Physical activity and cardiovascular system after Covid-19 pandemic

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Abstract

Physical activity plays a pivotal role in maintaining and enhancing the health of the cardiovascular system. Regular exercise contributes to improved cardiac function, vascular health, and overall cardiovascular efficiency by promoting adaptive physiological changes. Physical activity helps regulate blood pressure, enhance myocardial oxygen supply, and strengthen heart muscle, reducing the risk of conditions like hypertension, atherosclerosis, and coronary artery disease. Engaging in moderate to vigorous physical activity increases cardiac output and improves lipid profiles by elevating high-density lipoprotein (HDL) cholesterol while reducing low-density lipoprotein (LDL) cholesterol levels. Additionally, physical activity aids in weight management and glucose metabolism, reducing the risks associated with obesity and diabetes, both of which are significant cardiovascular risk factors. The cardiovascular benefits of physical activity extend to psychological health, as regular exercise reduces stress and anxiety, indirectly benefiting heart health through improved autonomic balance and decreased levels of stress hormones like cortisol. Physical activity is a cornerstone of cardiovascular health, acting as both a preventive and therapeutic intervention to enhance heart and vascular function, mitigate disease risks, and promote longevity. Its multidimensional benefits underscore its critical importance in cardiovascular disease prevention strategies and overall health optimization.

Keywords: physical activity, cardiovascular system

Vision of increasing physical activity after COVID19 pandemic in Slovakia

Pupiš M.

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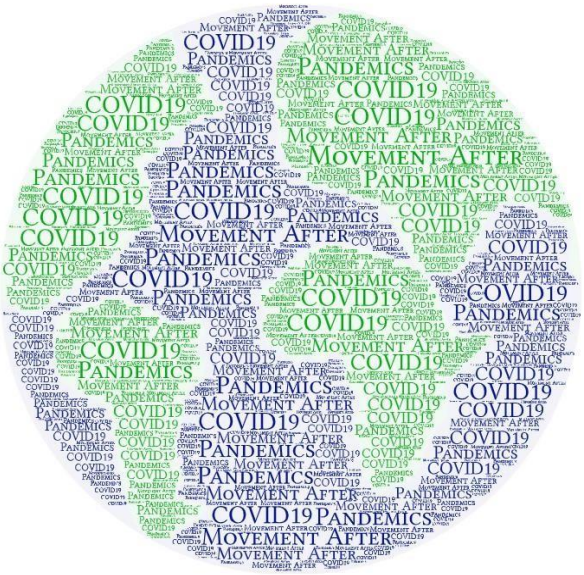
Abstract

The COVID-19 pandemic has brought significant challenges to public health globally, including a marked decline in physical activity levels due to restrictions and lifestyle changes. Slovakia, like many countries, faces the urgent task of addressing this issue to improve the overall well-being of its population. A renewed vision for increasing physical activity post-pandemic focuses on fostering a culture of movement through inclusive policies, accessible infrastructure, and community-driven initiatives. Emphasis on outdoor recreational opportunities, digital fitness platforms, and public awareness campaigns can inspire individuals to adopt active lifestyles. Collaboration between government agencies, schools, healthcare providers, and private sectors is critical in creating sustainable solutions. Prioritizing physical activity in urban planning, enhancing green spaces, and implementing targeted programs for vulnerable groups, such as the elderly and youth, are pivotal. The vision extends beyond recovery, aiming for a resilient, health-conscious society where physical activity becomes a fundamental part of daily life. Addressing barriers like socioeconomic disparities, lack of motivation, and limited facilities remains essential in realizing this goal.

Keywords: Physical activity, COVIDMOVE, Slovakia



Physical activity of students in Poland, the Czech Republic, and Slovakia after the COVID-19 pandemic: results of the COVIDMOVE project

Rutkowska A.

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Abstract

The presentation focuses on the results of the international project *The Movement Activity Enhancement after the COVID-19 Pandemics (COVIDMOVE)*, which aimed to assess the level of physical activity among students from Poland, the Czech Republic, and Slovakia after the COVID-19 pandemic. It highlights the importance of physical activity in preventing chronic diseases, improving mental health and overall well-being, and addresses the global costs of physical inactivity. The study included 2,635 students aged 17 to 30 years, consisting of: Poland: 393 participants, Czech Republic: 459 participants, Slovakia: 1,783 participants. Only physically able undergraduate and graduate students were included, who completed the IPAQ-SF questionnaire assessing physical activity levels. The highest level of physical activity was recorded among Slovak students, while Polish students had the lowest levels. Slovak women were the most physically active, while men showed no significant differences in activity levels between the countries. Slovak students spent the least amount of time sitting compared to their counterparts from Poland and the Czech Republic. Polish students had the highest BMI, and the largest proportion of overweight and obese individuals compared to other groups. The study results highlight the need for educational and preventive programs promoting physical activity, especially in Poland. Low levels of physical activity may lead to deteriorating physical and mental health. The COVIDMOVE project emphasizes the importance of international efforts to support healthy lifestyles among university students.

Keywords: physical activity, COVIDMOVE, Slovakia, Czech Republic, Poland

A level of physical activity in Poland – results of COVIDMOVE grant

Rutkowski S.

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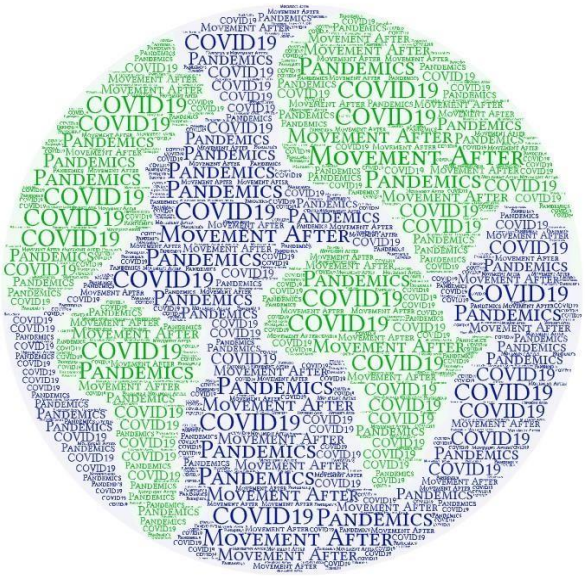
Abstract

The COVID-19 pandemic significantly impacted daily life worldwide, including physical activity levels. Prolonged restrictions and lockdowns altered individuals' routines, influencing health habits and physical activity. The COVIDMOVE project aimed to assess the physical activity levels of young adults in Poland in 2022, utilizing international research tools and analyzing results in the context of the pandemic's impact on lifestyle. The objective of the study was to determine the physical activity levels of university students in Poland using the short version of the International Physical Activity Questionnaire (IPAQ-SF). The study also compared these results with previous data to evaluate the long-term effects of the pandemic on health-related behaviors in this age group. The study included 393 students from various universities in Poland. The standardized IPAQ-SF questionnaire was used to assess physical activity in three intensity categories: vigorous, moderate, and light (e.g., walking). The questionnaire also included questions about daily sedentary time. Data were analyzed using descriptive and comparative statistics, with results presented as means and standard deviations for each activity category. The study revealed significant variation in physical activity levels among the participants. Approximately 65% of the respondents met the WHO's minimum recommendations for physical activity (at least 150 minutes of moderate or 75 minutes of vigorous activity per week), while 20% reported low activity levels, and 15% did not engage in any regular activity. The average sedentary time was 8.5 hours per day (±2 hours). Students demonstrated average physical activity results in MET-min/week: for vigorous activity 1376.9 (±1811.3), moderate activity 654.1 (±1040.7), and walking 1536.1 (±1312.8). The total score was 3567.1 (±2425.6), indicating a substantial decline compared to pre-pandemic levels. Compared to pre-pandemic data, the percentage of individuals engaging in vigorous physical activity dropped by 12%, and the average time spent on moderate activity decreased from 3.2 hours per week to 2.7 hours. The results indicate a significant impact of the pandemic on the lifestyle of young adults. COVID-19 restrictions may have contributed to reduced physical activity, associated with gym closures, absence of university sports programs, and limited social mobility. Simultaneously, increased sedentary time could have adverse health consequences, such as a higher risk of obesity or cardiovascular issues. The findings align with international data, confirming that the pandemic had a global impact on the health behaviors of young people.

The COVIDMOVE project highlights the importance of monitoring physical activity in young adult populations, particularly during global health crises. The findings underscore the need for promoting physical activity and implementing programs that support healthy lifestyles among students. Such initiatives could help counteract the negative effects of pandemic restrictions and improve the quality of life for young people in the long term.

Keywords: physical activity, sedentary lifestyle, COVIDMOVE



The use of neurovisual therapy in movement activities

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Abstract

The body's ability to orient itself in space is one of the basic skills for performing an ideal motor activity. The human brain, by receiving information from the sensory organs, produces an adequate motor response that allows us to perform the most precise, subtle and sophisticated movements. The quality of the information received depends closely on the ability of the sensory apparatus to pick up and process the stimuli. In the integration of sensory perceptions, inputs from the auditory system, vestibular system, interoception and exteroception of the body are important for the brain. However, the most important input is undoubtedly the visual system. Thus, the importance of all the perceptual organs and their sensory integration for movement is quite unquestionable, but is often neglected by Ayres. The relationship between sensory integration and movement coordination is nowadays, even according to Kolář, a limitedly explored area. Many questions arise here in terms of the interplay and compensatory functions of the different sensory modalities. However, there is a lack of well-founded, convincing evidence.

The process of motor learning and its ideal backward correction is largely influenced by the integration of this sensory information. The neurophysiological processes from sensory inputs condition the quality of the overall motor learning process. Among other things, an adequately centered joint is a prerequisite for the ideal execution of a motor task. Functional joint centration is not a static but a dynamic position. Although the musculature is the main means of maintaining the most optimal position, it is not only this interplay. It should be noted that postural-articular functions are also inextricably affected through afferent inputs.

Keywords: neuro visual training, sensory integration, sight

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