

PHYSICAL ACTIVITY AND PHYSICAL EXERCISE IN A PANDEMIC - CHANGES AND CONSEQUENCES

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UDK 796.01:616-036.22

SUMMARY

COVID-19 (coronavirus) was discovered at the end of 2019 and became a global pandemic in 2020. To fight the COVID-19 pandemic, numerous countries around the world have imposed different social restrictions in the hopes of slowing the virus's spread. For more than two years, humanity has been exposed to stress, which has resulted in a significant change in human lives and a negative impact on people's health due to the need for a completely different adjustment to everyday life. Every new, unfamiliar scenario triggers tension, which is a natural response to a threat. All of this resulted in people being confined to their houses, prevented them from seeing loved ones or taking care of daily tasks, decreased their mobility, forced them to work from home, and completely altered their daily routines.

The SARS-CoV-2 coronavirus pandemic has created a global social threat, both economic and medical, with significant lifestyle changes. Part of the strategy to limit the spread of the virus was social isolation, which is incompatible with the human need for physical activity.

The COVID-19 pandemic has stopped sport and its development in a significantly different way than any known pandemic so far. People whose main occupation is sports were especially affected. The fight against the spread of COVID-19 has resulted in the closure of sports clubs, facilities, gyms, stadiums, swimming pools, dance and fitness studios, physical therapy centers, parks and playgrounds.

A significant number of studies were conducted during the pandemic in order to determine the impact of the pandemic on various aspects of social life, precisely because of the situation that was imposed on the entire society and because of the change in the format of everyday life that deviated from the usual. Physical activity is one of them.

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This work aims to review those works by systematizing the goals, contents and results of those researches, in order to determine how much they were represented and what conclusions were reached based on them.

INTRODUCTION

COVID-19 (coronavirus) was discovered at the end of 2019 and became a global pandemic in 2020. There is no consensus among world scientists as to whether it is produced by a natural virus or if it was created in a laboratory as a form of apocalyptic weapon, as Serbian philosopher Svetozar Stojanovic¹ predicted earlier. In March 2020, the contagion caused by coronavirus was labeled a pandemic by the World Health Organization (WHO), forcing the entire world to adjust to the new reality. There have been significant changes in everyday life, and countries have experienced significant economic losses, putting contemporary civilization to the test. Difficulties have arisen in all spheres of life.

It can be said that the COVID-19 pandemic, which first appeared in China and then affected the whole world, harmed various aspects of life. To fight the COVID-19 pandemic, many countries around the world have imposed various restrictions on social life on the assumption that this could slow the spread of the virus. Measures of quarantine and social distancing were applied. This included the introduction of various forms of isolation, restrictions on gatherings, travel bans, bans on sports activities, and a ban on entertainment activities (eg concerts). For more than two years, humanity has been exposed to stress, which has brought about a huge change in human lives and which has affected people's health because it required a completely different adjustment to everyday life. Every new, unknown situation brings with it a dose of stress that is a natural reaction to danger. All this resulted in the confinement of individuals in their own homes, the inability to see loved ones and perform daily tasks, poor movement, work from home, and a complete change in daily routines. Such changes brought various problems, increase the level of stress, anxiety, and frustration.

Changes in crisis situations result in a loss of control, trust, purpose, and self-confidence, resulting in feelings of overwhelm, anxiety, confusion, helplessness,

¹ Aleksandar Prnjat, "Apocalypse without Revelation: Svetozar Stojanović on the Possibility of Self-Destruction of Humanity," *Theoria*, Beograd 55 (2012): 113-28.; Dejan Dašić, Miloš Tošić, and Velimir Deletić, "The Impact of the COVID-19 Pandemic on the Advertising and Sponsorship Industry in Sport," *Bizinfo* Blace 11, no. 2 (2020): 105-16, <https://doi.org/10.5937/bizinfo2002105d>.

and anxiety. As a result, withdrawal, resentment, and other behaviors are likely in such situations².

In addition to having a negative impact on health due to inactivity, mental health risks associated with loneliness and anxiety, the COVID-19 pandemic also had major consequences for daily life, health and society in general and many sectors of the economy, especially service sectors, e.g. tourism, food and accommodation services, transport, sports, etc. As a result of the pandemic, most educational institutions, particularly universities, shifted to distance learning, which restricted the opportunity for teaching a subjects like physical education, which is so practice-oriented. In such circumstances, many people tend to be less physically active, spend more time using electronic devices, have irregular sleep patterns and eat less healthy, which leads to weight gain and loss of fitness.

The COVID-19 pandemic poses a huge threat to the physical and mental health of the global population. Quarantine, self-isolation, unfavorable economic situation related to deteriorating material conditions, impossibility of personal learning, regular reporting in the media (mass media) on the number of people suffering from coronavirus - all these components caused a psychological crisis for all. The coronavirus pandemic has created a global social threat, both economic and medical, with significant changes in lifestyle. Part of the strategy to limit the spread of the virus was social isolation, which is incompatible with the human need for physical activity.

Each person's action is objectively materially based on his or her needs. These biological and social demands are the source of the proper motivations. And what separates/connects a person from an activity are their motives. For instance, a person must move. People are motivated to walk, run, jump, and exercise because of this urge. The need is the cornerstone of physical activity, but motives help it take place. Volunteering, which is its premise, also plays an important role in satisfying human needs. Therefore, when it comes to (for example) the need to move, it is important to know the freedom that affects volunteering - when a person, without coercion, engages in the process of physical exercise (to satisfy, however, his need to move)³.

However, the modern lifestyle greatly contributes to physical inactivity and significantly reduces the possibility of meeting these needs, and this was further

² Sedat G Kandemirli et al., "Brain MRI Findings in Patients in the Intensive Care Unit with COVID-19 Infection," *Radiology*, May 8, (2020), 201697, <https://doi.org/10.1148/radiol.2020201697>; Ana Vidović, "Otpornost Na Stres Uzorkovan Pandemijom COVID-19 Kod Mladih: Razlike Između Sportaša I Nesportaša," *repozitorij.unizg.hr*, September 21, (2021), <https://repozitorij.unizg.hr/islandora/object/hrstud:2592>.

³ Ненад Живановић, et al., *Теорија физичке културе*. (Ниш: Факултет спорта и физичког васпитања, 2010).

strengthened in the new living conditions by the obligation to maintain social distance. During the pandemic, inactivity increased because various types of physical activity were disabled (physical activity at school, trainings, matches, work of fitness centers, etc.). The pandemic has created a new atmosphere with recommendations to reduce physical activity, distance oneself from society and stay at home. It has reduced the possibility of performing physical activity outdoors, in nature, and has created a fear of viruses. Constant physical inactivity and a sedentary lifestyle create poor mental and mental health that aggravate the symptoms of the disease (if a person has it). Research has shown that even short periods of reduced physical activity can be detrimental to health. This situation can negatively affect well-being, health and quality of life. People have lost their capacity to lead active lifestyles as a result of being constrained in small spaces. Locking limited people's daily physical activity. Due to the COVID-19 pandemic, many jobs are endangered globally, not only for sports professionals, but also for the entire sports industry and retail chains of sports products and services related to national leagues and events, which include travel, tourism, infrastructure, transportation, catering, media broadcasting, etc.

Restrictions imposed due to the pandemic have significantly affected various areas of life, and sport is no exception. The COVID-19 has stopped sport and its development in a significantly different way than any known pandemic so far. Even during both world wars, sport was stopped in only a few countries altogether. For the first time, the Olympic Games have been postponed to next year - Tokyo 2021 (instead of 2020). Due to the risk of infection, physical distancing was introduced to protect society and reduce the rate of infection, so that sporting events were held without spectators in the arenas. COVID-19 has imposed a situation where it is necessary to consider and establish future alternative intervention measures for similar social disorders in all areas, including sports.⁴

Professional athletes had to postpone their training processes, stay at home and risk losing professional sponsors. Replacing practical classes in the gym for distance learning in classrooms or at home, sitting in front of a computer, leads to a reduction in physical activity. Numerous studies were conducted during the pandemic to ascertain the impact of the pandemic on various aspects of social life, including physical activity. This is specifically due to the situation that was imposed on the entire society and the change in the format of daily life that deviated from the usual. This paper aims to review these papers by systematizing the objectives, content, and results of these studies, to determine how much they were represented and what conclusions were reached based on them.

⁴ Sandra Đurović, et al., "Održivost razvoja sportskog turizma kao privredne grane: uticaj COVID-19". *Ecologica* 27, no.100 (2020): 699–706.

METHODS

By searching the Internet and the following databases, KOBSON, Google Scholar, and SCIndeks, information about research on the subject was gathered. The following keywords, as well as their combinations, were used to search databases in Serbian, Russian, and English: pandemic, KOVID 19, physical activity, physical exercise. In the first phase of searching and data collecting, the relevance of titles and abstracts identified by keywords was checked. In the second stage, whole papers were taken over, and references were examined to learn more about the data sources used in the paper's content and about related research on a particular issue. Translation, reading, and analysis of entire texts, abstracts, and research titles were done. Research on both male and female subjects was examined. The systematization method, the comparison method, the theoretical analysis technique, as well as the descriptive approach were used for the gathering, categorization, and analysis of research. Written sources (books, monographs, scientific papers published in reference journals, collections, etc.) that have been published are studied by the method of theoretical analysis. Supplementary literature in the form of textbooks, master's theses and doctoral dissertations, and other publications and author's texts were also analyzed.

RESULTS

Review and analysis of research papers was performed on the basis of: research goal, sample of respondents, research methodology, research areas, research results, references. The analysis included 71 papers in Serbian, Russian and English language.

By analyzing the included research papers, based on the goal and content and conclusions, all papers can be divided into 3 groups: 1) papers focused on the feelings and attitudes of participants in physical activities according to changed conditions of physical activity, 2) papers focused on forms of physical activities in changed working conditions, 3) papers focused on the consequences of changed working conditions of entities related to physical activity, on recommendations for action and overcoming the negative effects of the pandemic.

ANALYSIS AND DISCUSSION

There are 13 publications in **the first category** of articles, which focused on how participants in physical exercise felt and acted in response to the altered conditions of participating in physical activity. The feature of this group of papers is that they are all research-based. They were conducted with specific groups of respondents (primarily students and athletes) via the Internet due to the imposed

conditions of restricting direct contact. Most of the papers (5) were focused on the student population and changes in their way of engaging in physical activities and physical exercise under the influence of measures of restriction of direct contact, due to the requirement to respect "social distance" and wearing masks, which prevented the usual way of work done in groups. A small number of papers (4) were focused on registered athletes and other categories of society. These papers' primary objective was to use an online survey to determine how participants felt about the effects of pandemic-related conditions on their daily lives that involved physical activity and exercise. The objectives of these papers could be presented as:

- changes in the frequency of physical activity during a pandemic;
- the impact of physical activity on mental health, as well as health in general;
- the impact of quarantine and self-isolation on physical fitness;
- self-perception of health during a pandemic;
- opinion on the impact of the pandemic on those individuals who engage in physical exercise;
- differences in resistance to stress between those who do sports and those who do not exercise at all;
- feeling of finances and material endangerment due to the impossibility of regular and continuous performance and competition.

The most common keywords representing these papers and their content were: COVID-19, pandemic, quarantine, coronavirus, physical/corporal activity, health, athletes, students, professional sports and women's sports. When summarizing and assessing the findings from these studies, it can be noted that the research's findings revealed that:

The most exercise performed during the pandemic period was cardio exercise.

- There is no significant difference in the time devoted to physical exercise before and during the pandemic in the respondents who regularly dealt with it before, but that there is a difference in the time they spent sitting before and during the pandemic.
- There is a significant difference in relation to the emotional state in favor of those who have engaged in physical activity compared to those who have not.
- There is no significant difference was found in physical activity in relation to age, education and employment status, but it was determined in relation to gender.

- The biggest problem for professional athletes for active continuous exercise was the lack of appropriate equipment and space for adequate maintenance of sports form.
- Participation in sports activities has not only a positive effect on the physical health of young people but also a positive impact on their mental health in the context of coping and overcoming stress, both in general and those caused by a pandemic.
- Athletes are more resistant to stress and have had fewer negative effects of the pandemic than recreational and non-athletes.
- The interaction of gender and levels of sports has not been shown to be significant in some studies, while in others, increased anxiety has been observed in women.
- Increased anxiety was observed in young athletes, and professional athletes who did not train during quarantine.
- Lower motivation was noted among older athletes, athletes competing at a lower sports level and athletes without training during quarantine.
- The difference in experience and coping with stress between individual and team athletes has not been established.
- In the economic sense, the pandemic had a very negative impact on the existence of athletes due to unrealized transfers, unpaid financial obligations, etc.
- When it comes to the field of education, students initially felt tense, but that they generally maintained a good mood, were guided by the recommendations and information they received from the higher education institution where they studied and that they were more engaged in some hobby activities.

The second category, which focuses on how physical activities are carried out in the new working environment and their effectiveness, includes 18 papers. The distinctive features of this group of articles are that a part of them is research-related and that they were written in educational settings with students and learners using the Internet. A small portion of publications used surveys, while others came from generated changed teaching methods and distant learning. The conclusions drawn are based on actual experience with this new teaching strategy when compared to older, more popular ways of educating students and setting up courses.

Most of the articles (13) were related to the student population and the effects of teaching "distance learning" via the Internet resulting from measures to limit direct contact due to the requirement to respect "social distance" and wearing masks, which prevented the usual, previous way of teaching. A small portion of

articles (3) referred to students of schools and preschool institutions and other categories of society (2). The main goal of these papers was to determine the effects (advantages and disadvantages) of teaching via the Internet. The objectives of these papers could be presented as:

- determining the specifics of the organization and implementation of teaching in educational institutions (preschool, school, higher education) using e-learning and distance learning technologies (online) during the coronavirus pandemic, how teaching is conducted in disciplines that include "permanent" practical teaching (physical education and similar subjects) in this environment and way of working, as well as determining whether this way of teaching has affected its quality;
- organizing independent physical education classes, models of physical exercise at home and their impact on students' health, the problem of maintaining physical and emotional health in conditions of self-isolation in connection with the coronavirus epidemic;
- developing the concept of an efficient format of this type of work in the field of physical culture and sports, algorithm and procedure for conducting practical classes both in a usual conditions and during a pandemic;
- development of new regulations for the study of practical disciplines for students of all fields of training and specialties of regular education in conditions of forced quarantine using distance learning technologies;
- analysis of the transformation of the electronic information and educational space of the university during the pandemic as a condition for ensuring the effectiveness of fitness training;
- assessment of the degree of impact of distance learning on the level of physical fitness;
- variability of physical activity during the quarantine period;
- WHO exercises to maintain minimal physical activity for people at home without specialized equipment.

The most common keywords representing these papers and their content were: COVID-19, distance learning/education, quarantine, physical education, independent physical education classes, physical education and distance sports; students, pupils, teaching. When summarizing and assessing the findings from these studies, it can be noted that the research's findings revealed that:

- The system of organization of distance learning for the contents of physical education is possible and realistically achievable with the

prior creation of quality material and technical conditions and cohesive work of a team of experts in the field of physical culture.

- The faculty's group physical education sessions are the optimum way to stimulate students' motivation because they take place just after a regular educational program.
- Physical education and sports during the covid-19 pandemic became an organizationally difficult and demanding task.
- Distance classes in the form of online training do not take into account the nuances of the training phases of individual sports.
- Modern students have good computer skills and good knowledge of the Internet, which has contributed to the rapid transition from full-time to distance learning.
- As the main problems that prevented the quality of mastering the teaching material from certain subjects, students attributed technical failures and the inability of some students to perform practical tasks at home.
- Modern educational space cannot be imagined without the use of information and communication technologies and modern teaching aids, and therefore some types of work can be transferred to a distance format, such as lectures, theoretical classes, etc.
- Most students notice a lack of "live" communication with the teacher and a lack of opportunities to fully develop practical skills in the group.
- Also, the survey found that they lacked "live communication" with peers, educators, and teachers.
- The transition to distance learning leads to a change in the role of the teacher - from the supervisory coach to the moderator-observer. Moreover, the results of research on students' motivation to teach physical education at a distance showed that the lack of an individual approach and elements of physical therapy in distance learning is the main factor that reduces the motivation for distance learning.
- The survey showed that for most students, the independent organization of physical exercises had a positive result. Classes at home are very important for every person, because they not only maintain physical condition, but also increase efficiency and energy, which is very important in self-isolation period.
- The transition to distance learning in physical education is possible only in an extreme, "hopeless" situation. Physical culture refers to

disciplines that require contact between teachers and students for proper understanding and competent adoption of acquired knowledge, skills and abilities.

- One of the ways to compile lists of exercises and work plan can be direct consultations with students on one of the platforms for remote interaction (Zoom, Google Meet, Skype). During the consultation, the teacher together with the students makes sets of exercises for the next 2-3 hours. A video in which the student reports the agreed-upon exercise could be recorded as an alternative for conducting intermediate control. After that, the teacher will evaluate the performance of the exercise on several scales: correctness, presence of results.
- During the research, it was discovered that the transformation of the electronic information and educational space of the university during the pandemic enabled to: expand the possibilities of working with students, raise the level of their theoretical knowledge, provide better methodological support for program development.
- As a result of the study, it was found that the use of distance learning during physical education classes leads to a decrease in the level of physical fitness in boys and girls.
- Distance learning negatively affects physical quality such as speed, and if when used, it is necessary to find an opportunity to reconsider the procedure of presenting the material in the form of distance work when taking these parts of the curriculum.
- After the introduction of distance learning, there was a significant reduction in the level of physical fitness, which indicates the negative impact of this form of interaction between students and teachers on the level of development of physical quality of a person.
- Prolonged stay at home without physical activity negatively affects the health and quality of life of people during pandemic because children, students and athletes had only a small part of physical activity in the discipline of physical culture and sports and could not go to gyms and sports training clubs.

In total, 38 studies were classified in **the third category**, which examined the implications of altered working conditions for individuals involved in physical exercise, as well as recommendations for action and overcoming the negative effects of the pandemic. The characteristic of this group of articles is that they are of a theoretical type and that there was no research of a practical nature, but the

authors dealt with the consideration of changed working conditions, life and, within that, changed working conditions for engaging in physical activity and physical exercise.

The objectives of these papers could be presented as:

- • the importance of the role of physical activity in the fight against COVID-19;
- • the impact of the pandemic on the advertising and sponsorship industry in sports;
- • sports and recreation programs as an integral part of free time and their importance during the pandemic;
- • professional sport and the impact of the pandemic on it;
- • consideration of theories about the influence of physical activity on the immune system;
- • providing information and indicating the types of physical activities that can be applied and useful in the pandemic;
- • consideration of issues related to a healthy lifestyle during the pandemic;
- • looking at the problems associated with reduced physical activity during the pandemic;
- • methodology of using different forms of physical exercise adapted to changed social environment;
- • the role of physical culture in the prevention of corona virus and other respiratory diseases;
- • the impact of COVID-19 on the future of sports, i.e. perceiving and understanding the problems and dimensions of the current COVID-19 pandemic in the function of sustainable development of sports;
- • looking at the problem of low physical activity of children and youth during the pandemic period;
- • the impact of engaging in physical exercise on personality in the conditions of the COVID-19 pandemic;
- • looking at the psychological and sociological effects of the quarantine on athletes, as well as the economic consequences of the pandemic on sports;
- • determination of factors and risk assessment of playing sports during the pandemic;
- • determining the impact of COVID-19 on the sports industry and sports management in sports organizations;

- • determination of how the media deals with issues related to sports with disabilities, promotion of opportunities to play sports during the pandemic and inclusion;
- • determination of the impact of new circumstances on the fans' attitude towards sports;
- • determining the impact on sport and the challenges caused by the COVID-19 pandemic;
- • pointing out the positive and negative sides of sport and society in the period of the COVID-19 pandemic;
- • participation of the services of sports psychologists in the COVID-19 pandemic;
- • determination of the role of the association between sports and tourism in the response to the COVID-19 pandemic;
- • determining the impact of mixed reality applications such as ZWIFT: (interactive cycling game);
- • determining the position of youth sports in the pandemic.

COVID-19, pandemic, physical activity, sport, (self)isolation, health/healthy lifestyle, exercise/training were the most common keywords used to describe these papers and their content. By summarizing and analyzing the conclusions obtained from these researches, it can be pointed out that:

- Adaptations to the dynamic elements of the sport experience, including personal engagement in activities (eg, virtual coaching), quality social dynamics (eg, athlete relationships; health and well-being), and appropriate settings and organizational structures (eg, socio-cultural factors; safety concerns) represent the backbone of the development of youth sports in the pandemic.
- Sociologists should play an important role in gathering knowledge about how sport can overcome the crisis caused by the pandemic.
- It is expected that in the near future, during and immediately after the pandemic, the sport of persons with disabilities will lose media attention, which will be focused on athletes without disabilities.
- Not only is the COVID-19 pandemic exposing the fragility of the globalized neoliberal international system, but it is also triggering the rise of nationalist politics in the world. Furthermore, changing international relations in the (post)COVID-19 era are exacerbating geopolitical tensions in the Asia-Pacific region.
- Professional sport, as well as its restoration, has a secondary importance in the context of the COVID-19 pandemic at the global

level. It is necessary to determine the factors and risk assessments that should exist before returning to sport.

- For clubs and tournament organizers, especially the smaller ones, the loss of revenue from matches is a major issue under the pandemic conditions. Sponsors may face serious problems, such as liquidity, which make it difficult or completely impossible for them to fulfill their obligations and force them to terminate sponsorship contracts.
- We can draw the conclusion that the pandemic caught practically all governments unprepared and without a clear idea of how to solve the problem. The decisions were various, confusing, and occasionally contradictory. Epidemiologists and medical experts who had a key role in the adoption of measures were guided by the acquired knowledge and experience, regardless of the economic consequences.
- The consequences of the COVID-19 pandemic have not yet been measured. During it, the consequences were first felt in the economy, with a decline in production, transport and product placement. Numerous service sectors, particularly those in the tourist and civil transportation sectors, have seen massive labor surpluses. New safe capital placements and the non-payment of many earlier investments presented challenges for the banking industry. Both sports professionals and recreational athletes were influenced by that vicious cycle of insecurity.
- Quarantine during the pandemic forced people to stay at home and go out only in emergencies. Staying at home can lead to anxiety and mental stress. The best way to overcome these problems is to replace outdoor activities with indoor activities such as weight training, cardio and dance exercises. These activities can be combined with stretching and active play.
- Due to the spread of the corona virus and the forced isolation of people, major sports and fitness events now confront serious obstacles. The championships were cancelled, the Olympic Games were postponed. Fitness centers, various gyms, where a huge number of people trained, were closed. In fact, quarantine is not an obstacle to playing sports and keeping body in good shape. The primary requirements for this include appropriate nutrition, the creation of novel workout routines that can even be done at home, adherence to safety regulations, and the psychological state needed to play sports during the pandemic.

- Students' mental and physical health as well as their preparation for functional tasks were severely impacted by distance learning in higher education institutions.
- The level of functional preparedness and psychophysical state significantly decreased in the majority of female students who began conventional education after distant learning. Most young people have an increased level of anxiety and fear, accompanied by confusion, conflicts and severe irritation. And during the period of distance learning, students experience psychological stress, which negatively affects the quality of their education. After conducting a series of scientific studies, most scientists have come to the conclusion that during the pandemic (COVID-19), learning at home (at a distance) has very bad consequences for the health of students.
- COVID-19 has imposed a situation where it is necessary to consider and establish future alternative measures of intervention for similar pandemics and other disasters in all areas, including in the field of sports tourism. The perspective of sustainable development of sports tourism should most likely be sought in the potential of sports tourism, in its nature and the desire to represent a solution to the economic crisis of tourism itself.
- Teenagers who stay at home are in unusual circumstances for them and severely restrict their motor routine, thus it's important to educate parents and teachers about the fact that the unexpected abundance of free time is actually an opportunity for them to expand their motor activities. The effectiveness of independent physical education programs can be increased by developing particular practical activities for exercising during the day.
- It is crucial to boost adolescents' motivation to perform individual physical activity in self-isolation in order to maintain and advance their physical fitness. One strategy is to use a sentence like this: "Physical exercises can replace many medicines, but no medicine in the world can replace exercises".
- Physical activity is a powerful disease prevention tool for individuals and a cost-effective way for countries to improve the health of their population as a whole.

CONCLUSION

The COVID-19 pandemic, which first appeared in 2020, was a global crisis that severely impacted social life and working activities in the whole world. Physical activity and exercise, which are essential components of the lives of a large number of people and occupy a significant portion of their daily lives, were two areas of social life where the disorder was evident. Due to their enormous importance and the huge number of people who are involved in various forms of physical exercise, the pandemic had a significant impact on all of them, and in this sense, a large number of papers were published that dealt with the topic of their association. In the course of conducting this research, a sizable number of articles that examined the pandemic's effects from the standpoint of their significance for society and from a variety of perspectives were reviewed and discussed. From these articles, certain conclusions could be drawn regarding the outcomes that followed and how we should respond to similar events in the future.

The studied papers were divided into three categories based on their content, set goals and certain common elements that represented the topic covered. Summarizing the analysis of the collected papers indicates that the authors considered the participants in the process of physical exercise and training of various categories (but mostly it was dedicated to athletes and students), but also sports and physical exercise itself as social phenomena.

These researches had a variety of objectives, but they all shared the intent to ascertain whether, how, and to what extent attitudes toward physical activity and exercise have changed, what effects on people's physical and psychological well-being reduced physical activity and exercise due to pandemic-related restrictions, and what changes have taken place in the way physical exercise and training are realized and organized.

The generalization of the conclusions presented within all three categories indicates that:

- the pandemic profoundly affect the emotional and psychological state of every individual in society, including those who regularly engage in physical activity and exercise, while according to the conclusions of aforementioned papers, this is less pronounced in those who regularly engage in those activities;
- everyone in society was negatively impacted by the epidemic, including registered athletes whose earnings were decreased or disallowed for a variety of reasons;
- pandemic also had a negative impact on sport as a whole, changing the usual way of functioning and organization and bringing all actors of sport and sports events to a situation of impossibility or

inability to adequately react and find answers to all questions and problems that appeared;

- pandemic led to a change in the model of knowledge transfer in the educational system, translating it into a virtual way of communication and thereby creating a problem for those activities and teaching contents for which this form of work and realization is not fully appropriate;
- Many decisions were made without having a clear vision of the answer, and many of them were unclear and even conflicting. The pandemic was an exceedingly unexpected phenomena for all nations and individuals on Earth;
- The pandemic forced society to explore and build alternate ways of intervention in many spheres of life for future pandemics and other crises.

The significance of this study is demonstrated by the fact that it compiles and gives an overview of papers that addressed a topic that was and is still, in some way, of current interest. This topic has had a significant impact on modern society worldwide, altering perceptions of global connectivity, the fragility of the way of life as we know it, and the vulnerability of the social systems of most countries and the people living in them.

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ФИЗИЧКА АКТИВНОСТ И ФИЗИЧКЕ ВЕЖБЕ У ПАНДЕМИЈИ - ПРОМЕНЕ И ПОСЛЕДИЦЕ

САЖЕТАК

Крајем 2019. године појавило се обољење названо COVID-19 (коронавирус), које је током 2020. постало светска пандемија. Ради обуздавања пандемије COVID-19 многе су земље широм света наметнуле различита ограничења друштвеног живота са претпоставком да ово може да успори ширење овог вируса. Више од две године човечанство је изложено стресу који је донео огромну промену у људским животима и која је утицала на здравље људи јер је захтевала потпуно другачије прилагођавање на свакодневни живот. Свака нова, непозната ситуација са собом доноси дозу стреса која представља природну реакцију на опасност. Све то резултовало је затварањем појединаца у властите домове, немогућношћу виђања ближњих особа и обављања свакодневних послова, слабијег кретања, рада од куће и потпуне промене свакодневних рутина.

Пандемија коронавируса изазвана вирусом SARS-CoV-2, створила је глобалну друштвену претњу, и економску и медицинску, уз значајне промене у начину живота. Део стратегије за ограничавање ширења вируса је била и социјална изолација, која је некомпатибилна са људском потребом за физичком активношћу.

Пандемија COVID-19 зауставила је спорт и његов развој на један битно другачији начин од свих досада познатих. Посебно су били погођени људи којима је спорт главно занимање. Борба против ширења COVID-19 резултовала је затварањем спортских клубова, објектата, теретана, стадиона, базена, студија за плес и фитнес, центара за физикалну терапију, паркова и игралишта.

Управо због овакве ситуације која је била наметнута целом друштву и због промене формата свакодневног живота који је одступао од уобичајеног, током пандемије рађен је значајан број студија са циљем утврђивања утицаја пандемије на различите аспекте друштвеног живота. Један од њих је и бављење физичком активношћу.

Овај рад има за циљ сагледавање тих радова систематизовањем циљева, садржаја и резултата тих истраживања, како би се утврдило колико су они били заступљени и до каквих закључака се дошло на основу њих.

Кључне речи: коронавирус, социјално дистанцирање, физичка активност, пандемија, седентарно понашање.

ФИЗИЧЕСКАЯ АКТИВНОСТЬ И ФИЗИЧЕСКИЕ УПРАЖНЕНИЯ В УСЛОВИЯХ ПАНДЕМИИ – ИЗМЕНЕНИЯ И ПОСЛЕДСТВИЯ

АННОТАЦИЯ

COVID-19 (коронавирус) появился в конце 2019 года и стал глобальной пандемией в 2020 году. Для борьбы с пандемией COVID-19 многие страны мира ввели различные социальные ограничения в надежде замедлить распространение вируса. Уже более двух лет человечество подвержено стрессу, что привело к значительным изменениям в жизни людей и негативно отразилось на их здоровье из-за необходимости совершенно по-другому адаптироваться к повседневной жизни. Каждый новый, незнакомый сценарий вызывает напряжение, которое является естественной реакцией на угрозу. Все это привело к тому, что люди оказались запертыми в своих домах, лишились возможности видеться с близкими или заниматься повседневными делами, снизились их мобильность, они были вынуждены работать из дома и полностью изменили свой распорядок дня.

Пандемия коронавируса SARS-CoV-2 создала глобальную социальную угрозу, как экономическую, так и медицинскую, внесла значительные изменения в образ жизни людей. Частью стратегии по ограничению распространения вируса стала социальная изоляция, которая несовместима с потребностью человека в физической активности.

Пандемия COVID-19 остановила спорт и существенно повлияла на его развитие, т.е. иначе, чем любая известная до сих пор пандемия. Особенно пострадали люди, для которых спорт является основным занятием. Борьба с распространением COVID-19 привела к тому, что закрылись спортивные клубы, спортзалы, стадионы, бассейны, танцевальные и фитнес-студии, центры физиотерапии, парки и детские площадки.

Во время пандемии было проведено значительное количество исследований в целях определения влияния пандемии на различные аспекты социальной жизни, именно из-за ситуации, которая была навязана всему обществу, и из-за изменения формата повседневной жизни, который значительно отличался от привычного образа жизнедеятельности. Физическая активность – один из социальных аспектов.

Целью данной статьи является обзор исследований посредством выявления и систематизации целей, содержания и результатов исследований, чтобы определить, насколько многопланово они были представлены и какие выводы были сделаны на их основе.

Received on 05.11.2022.
Accepted on 11.12.2022.