

Research on Sports Health Strategy of College Students in Smog Environment

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Abstract: With the improvement of people's quality of life and the progress and development of society, people pay more and more attention to the physical health effects brought by physical exercise. Outdoors are the main place for physical exercise, but in winter, the impact of haze on environmental quality becomes more and more serious, directly threatening the health of the general public. To cope with the impact of bad weather, effective measures should be taken to increase and improve physical exercise and fitness places, scientifically and rationally arrange outdoor physical exercise time and areas, and carry out new physical exercise activities to ensure the sustainable development of outdoor physical exercise behavior. As the last chance for college students to receive systematic physical education, colleges and universities shoulder the important responsibility of improving college students' physical quality to adapt to the environment, so relevant departments have made corresponding policies. This paper analyzes the physiological and psychological characteristics of college students, and discusses how physical exercise can promote the healthy development of college students' body and mind, so as to improve the physical and mental health of college students in China.

1. Introduction

Health is a basic element of the survival and development of human society. Without health, there can be no high-quality life. Therefore, health belongs to both individuals and society [1]. In recent years, many data show that the mental health status of most college students is not optimistic. College students are an important force in the future construction of the country [2]. Their physical and mental health is not only related to their personal study and life, but also related to the future and development of the whole country [3]. However, the serious reality that the physical health level of college students in China is declining year by year has to arouse our great attention [4]. When there is a lot of water vapor in the air, certain dry aerosol particles with strong water absorption will absorb water, grow up and finally activate into cloud condensation nuclei to produce fog, and haze is a large number of very fine dry aerosol particles that float uniformly. In the air, the air that makes the horizontal visibility less than 10 kilometers is generally turbid, and haze is the general term for haze mixture. In recent surveys, various physical fitness indicators of college students have continued to decline. Under this severe situation, the appearance of haze has restricted students' various sports activities and has caused many negative effects on students' bodies. If the haze problem is not solved, the national economic development will be affected and the harmonious development of society will be hindered. The great dream of building a sports power is related to the vital interests of every citizen. At present, haze weather has become a major obstacle to national fitness.

With the rapid development of society, the competition for talents is becoming more and more fierce [5]. Looking at the competition of comprehensive national strength with economy, science and technology and national defense strength as the main content among countries in the world, in the final analysis, it is the competition of talents. What impact will smog have on the health of athletes? At present, there is little research on this aspect [6]. People's understanding of health changes with the development of science and different times [7]. In the past, it was generally believed that "health means no disease, and illness means unhealthy." The modern concept of health holds that "health is not only to avoid illness and weakness, but also to maintain a perfect state of physical, mental and social adaptation" [8]. Nowadays, for college students, related factors such as

troubles and challenges, family background and self-quality, study pressure and employment pressure, interpersonal relationships and heterosexual relationships can easily induce mental tension, depression and instability, loneliness, and depression for college students. Psychological disorders such as paranoia, low self-esteem and inferiority have seriously affected the study, life, communication and physical health of college students. From the perspective of physical exercise methodology, this article proposes strategies to solve such urgent problems. It is undoubtedly an important and positive attempt. It not only has a higher theoretical value, but also has a higher practical significance.

2. The current situation of smog pollution and people's understanding of it

2.1 Current status of smog pollution

In recent years, the cause of the increase in haze weather in my country is the result of a combination of man-made influencing factors caused by human social and economic activities and climatic factors brought about by climate change. "Smog" refers to a large amount of industrial pollution, dust particles, automobile exhaust, garbage combustion and other pollution sources that produce particulate matter suspended in the atmosphere under certain foggy weather conditions and poor air circulation. Haze and fog Blended with each other to form the haze weather that people see. Sports activities under haze pollution have a direct relationship with the body. From the slightest, the body feels obvious incompatibility, the body produces corresponding resistance, and at the worst, it may induce death. Outdoor sports in haze weather will cause a series of adverse reactions to the respiratory system, cardiovascular system and others, especially to the respiratory system. Therefore, the risk of physical exercise in haze weather is to a certain extent. The occurrence of haze disaster brings many hazards to the public's travel, work, life and health, accompanied by huge economic losses. The most important thing is to bring great harm to people's health.

2.2 Current situation of College Students' cognition of haze

According to the survey, most students believe that haze is not conducive to outdoor physical exercise. Whether aerobic exercise or anaerobic exercise, recovery should be completed by inhaling oxygen. Haze is particulate matter mixed with oxygen, which will stimulate inhalation and affect the respiratory system. When exercising in an air polluted environment, because the breathing mode during exercise changes from nose pharynx breathing to nose pharynx and mouth pharynx mixed breathing mode, the air entering the lung through the nasal cavity will be reduced and the gas entering the lung through the oropharynx will be increased, which will greatly reduce the filtration of air pollutants by the nasal cavity [9]. Bad air quality will play a negative role when the respiratory system increases to a certain extent, which will indirectly lead to the failure of exercise intensity and the termination of exercise process. Under the premise that neither the amount of exercise nor the intensity of exercise can be guaranteed, it is very difficult for fitness groups to improve their exercise capacity. If you just cannot do physical exercises, try to do other sports indoors. The main component of smog is PM2.5. PM2.5 has a complex composition and has a strong ability to absorb toxic substances. When these toxic substances enter the human body, they will affect the function of the bronchus, induce mucosal inflammation, and can adhere to the human body. In the respiratory tract and alveoli, not only cannot be removed, but it will also adversely affect the cardiovascular system, immune system, and reproductive system.

3. The role of physical exercise

Health promotion originates from health education, and it goes beyond the scope of health education. It is an interdisciplinary comprehensive discipline system built on the basis of multiple disciplines such as behavioral science, education, psychology, communication, preventive medicine, social science, and political science. Health promotion is a systematic project. It needs to improve people's health knowledge and awareness through various intervention strategies and methods at all

levels, let people know the harm of unhealthy behaviors, and consciously and voluntarily change unhealthy behaviors to protect and promote population health. the goal of.

3.1 Promoting effect of physical exercise on physical health

Physical exercise can strengthen the body, strengthen the physique, and has the functions of perfecting the body, developing the body, cultivating life, healthy mind, healthy personality, improving social adaptability, etc. Its important value lies in improving human lifestyle, vitality, psychological character and realizing the healthy development of the human body, so that people's essential strength can be reflected. Scientific exercise can increase the excitability of myocardium, strengthen contractility, dilate coronary artery, improve blood flow and improve the ability of myocardium to utilize oxygen, thus strengthening the function of heart. Life activities and physiological functions of human body are maintained by continuous gas exchange with external atmospheric environment. Obviously, the components in air pollution have become the guarantee of human health. Any sports, not only the movement of the motor organs, but also the cardiovascular, respiration, energy metabolism, endocrine, sensory systems and even the various tissues and organs of the whole body will have corresponding functional adaptation changes, and coordinate and cooperate with each other to exercise under the unified command of the nervous system. So as far as the human organism is concerned, sports promotes the vertical obedience and horizontal coordination of people's low-level functions to high-level functions.

3.2 The Promoting Effect of Physical Exercise on Mental Health

Mental health refers to a continuous mental state. In that case, the parties can make good adaptation, have vitality of life, and give full play to their physical and mental potential. This is a kind of positive and rich emotion, not only free from mental illness. Physical exercise is a kind of active activity process. Most sports activities require courage and the spirit of not being afraid of difficulties. There are many competitive events in sports activities, which requires students to have tenacious spiritual qualities. In the exercise activities, students are trained to strive for progress, bear hardships and stand hard work, and persevere. Anxiety will gradually reduce its intensity with the strengthening of physical exercise, and intense emotional state will gradually weaken in the consumption of physical energy and finally calm down. Sports can effectively regulate people's emotions. In all sports, some aerobic exercises consume some physical strength, but overall they can still play a relaxing role, so that students can fully regulate bad emotions, ranging from complex thoughts to It also takes a process to gradually restore calm. At the same time, physical exercise can strengthen the self-perception of college students and harmonize the interpersonal relationship among students. However, physical exercise in an unfavorable environment will lead to the occurrence of various physical diseases and emotional depression, and ultimately affect the enthusiasm of physical exercise and the experience of participating in sports.

4. Suggestion

In the special period of the smog outbreak, these methods are only expedient measures. The fundamentals are to fundamentally change the status quo of the decline of college students' physical fitness, solve the problem of air pollution, and increase pollution control efforts. At the same time, it is also a good choice for physical exercisers to wear a mask to exercise. It should be noted that masks will affect the normal functioning of the respiratory system. You can appropriately reduce the exercise intensity and extend the exercise time when you have a mask. , In order to achieve the purpose of fitness. In addition, by adjusting the energy strategy, controlling the pollution of industrial enterprises, strengthening the prevention and control of automobile pollution, improving the National Atmospheric Haze alarm, the prediction system, and strengthening the construction of urban greening are also important measures to prevent air pollution and improve people's health level. Physical exercise can not only improve the human body's circulatory system, enhance respiratory function, promote metabolism and enhance physique, but also contribute to the

coordinated development of the body, dignified posture and improve the health level. Therefore, physical exercise can not be lacked even in the haze environment.

5. Conclusions

Improving students' physique is not a problem that the education department alone can solve, but a social problem [10]. Scientific and reasonable physical exercise can effectively improve the physical function and mental health level of college students. Only by raising the awareness of the importance of physical exercise to the development of college students' physical and mental health and adopting effective measures and strategies can we truly and comprehensively improve the physical and mental health level of college students in China. Sports activities under smog pollution have a direct relationship with cardiovascular diseases. Smog pollution directly or indirectly harms the health of sports, ranging from feeling that the body is obviously unsuitable for the body and causing corresponding conflicts, to possibly inducing death. Therefore, outdoor sports should be avoided as much as possible under severe smog pollution. Physical exercise activities can be arranged scientifically and reasonably according to the temporal and regional laws of the haze weather itself. In late autumn and winter, early spring season and early morning and evening, the haze is more serious, and physical exercise should be carried out during the time when the pollution is more serious. The severe deterioration of the haze weather has severely threatened people's lives, health and safety. Long-term exposure to atmospheric particles or physical exercise in haze weather will cause various organs, tissues, and system physiological functions of the body to be damaged and destroyed to varying degrees. This requires physical exercisers to choose appropriate exercises. Location, duration and intensity of exercise.

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References

- [1] Zhang Tao. Research on the influence of smog weather on physical exercise and countermeasures [J]. *Journal of Military Sports*, 2016(4):89-92.
- [2] Wang Yanli, Zhao Yancheng, Liang Yu. Coping strategies of smog weather in physical education class University-theoretical conception of introducing indoor expansion project into classroom [J]. *Contemporary Sports Science and Technology*, 2015(30):2.
- [3] Wang Mengbing, Zhang Ruidan, Zhang Junjie. A study on contemporary college students' cognition of smog weather-taking Songjiang University Town as an example [J]. *Horizon of the Continental Bridge*, 2018, 000(004):325-326.
- [4] He Junqiu. Research on the development of children's indoor sports activities in bad weather [J]. *Collection sector: the exploration of famous teachers*, 2018(12):2.
- [5] Seinfeld. Probe into the application of multimedia in indoor physical education practice classes in middle schools [J]. *Education Modernization*, 2018, v.5(20):328-329.
- [6] Li Yanan, Wang Shenglong. Anti-smog indoor quality exercise [J]. *Physical Education*, 2016(9):4.
- [7] Wu Honghao. Research on video image forensics technology in dusty haze weather [J]. *Network security technology and application*, 2014(9):3.
- [8] Zhao Qiang. physical education class of college students in special weather and research on healthy physical exercise methods [J]. *Progress of sports science*, 2016, 4(2):5.

[9] Yang Jie. New countermeasures of college physical education under smog ①[J]. Contemporary Sports Science and Technology, 2017(7):206.

[10] Chen Wei. Strategies to effectively carry out physical education in foggy weather [J]. Primary school teaching research: theoretical edition, 2016(6):2.