

EFFECTS OF BASKETBALL ON THE HEALTH OF CHINESE PEOPLE

EFEITOS DO BASQUETE NA SAÚDE DO POVO CHINÊS

EFFECTOS DEL BALONCESTO EN LA SALUD DEL PUEBLO CHINO



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ABSTRACT

Objective: With the development of the economy, people's awareness of health care has been continuously improved. The concept of fitness has constantly been expanded by the population, propitiating the development of this industry. **Methods:** As an essential part of the development strategy of a modern and powerful country, the two national strategies of National Fitness and Healthy China provide guarantees to meet people's needs for a better life in the new era. **Results:** Basketball is rich in diversity; its intensity and load are also suitable for people of different ages. Therefore, basketball plays an active and effective role in realizing the national physical fitness program, improving the overall level of Chinese basketball, and improving the physical and mental health of the masses. Appropriate and reasonable exercise is the basis for ensuring physical health; thus, national physical fitness has become an essential prerequisite for national health, closely related and feasible to be integrated. **Conclusions:** Starting from the significance of the integration of physical fitness and national health, this paper analyzes the effects of basketball on people's health at different ages and presents corresponding guidance strategies. **Level of evidence II; Therapeutic studies - investigation of treatment results.**

Keywords: Fitness Centers; Basketball; Public Health.

RESUMO

Objetivo: Com o desenvolvimento da economia, a conscientização das pessoas sobre os cuidados com a saúde tem sido continuamente melhorada. O conceito de fitness tem sido continuamente expandido pela população, propiciando o desenvolvimento dessa indústria. **Métodos:** Como parte importante da estratégia de desenvolvimento de um país moderno e poderoso, as duas estratégias nacionais da National Fitness e da Healthy China oferecem garantias para atender às necessidades das pessoas para uma vida melhor na nova era. **Resultados:** O basquetebol é rico em diversidade, sua intensidade e carga também são adequadas para pessoas de diferentes idades. Portanto, o basquetebol desempenha um papel ativo e eficaz na realização do programa nacional de aptidão física, melhorando o nível geral do basquetebol chinês e melhorando a saúde física e mental das massas. Exercício apropriado e razoável é a base para assegurar a saúde física, assim a aptidão física nacional se tornou um importante pré-requisito para a saúde nacional, que está intimamente relacionada e é viável de ser integrada. **Conclusões:** Partindo do significado da integração da aptidão física e saúde nacional, este documento analisa os efeitos do basquetebol na saúde das pessoas em diferentes idades, e apresenta estratégias de orientação correspondentes. **Nível de evidência II; Estudos terapêuticos – investigação de resultados de tratamento.**

Descritores: Academias de Ginástica; Basquetebol; Saúde Pública.

RESUMEN

Objetivo: Con el desarrollo de la economía, la conciencia de la gente sobre los cuidados con la salud ha sido continuamente mejorada. El concepto de fitness ha sido ampliado continuamente por la población, propiciando el desarrollo de esta industria. **Métodos:** Como parte importante de la estrategia de desarrollo de un país moderno y poderoso, las dos estrategias nacionales de Acondicionamiento Físico Nacional y China Saludable ofrecen garantías para satisfacer las necesidades de la gente para una vida mejor en la nueva era. **Resultados:** El baloncesto es rico en diversidad, su intensidad y carga también son adecuadas para personas de diferentes edades. Por lo tanto, el baloncesto desempeña un papel activo y eficaz en la realización del programa nacional de acondicionamiento físico, en la mejora del nivel general del baloncesto chino y en la mejora de la salud física y mental de las masas. El ejercicio adecuado y razonable es la base para garantizar la salud física, por lo que la aptitud física nacional se ha convertido en un importante prerequisite para la salud nacional, que está estrechamente relacionada y es factible de ser integrada. **Conclusiones:** Partiendo de la importancia de la integración de la aptitud física y la salud nacional, este documento analiza los efectos del baloncesto en la salud de las personas a diferentes edades y presenta las correspondientes estrategias de orientación. **Nivel de evidencia II; Estudios terapéuticos – investigación de resultados de tratamiento.**

Descriptor: Centros de Acondicionamiento; Baloncesto; Salud Pública.



INTRODUCTION

With the development of economic environment, people's awareness of health and health care continues to improve, and the number of people covered by fitness concept continues to expand, which promotes the development of fitness industry.¹ With the continuous development and expansion of basketball, it has become a necessary skill for almost every body-building enthusiast. However, although many people like basketball, as a country with a large population, the proportion of people participating in basketball is still small.² As one of the national fitness projects, basketball is deeply loved by the masses. It is not only rich in content and high in exercise value, but also plays a positive role in strengthening physique and improving various functions of the human body. It is not only a kind of health care project, but also a good means for people to have a positive rest. At the same time, it has a special impact on the development of people's physical quality and human function.³ Basketball is an all-round physical exercise, and the threshold of participation in basketball is low, with few restrictions, so we should encourage the masses to participate in basketball, through participation in basketball can make all joints and muscles of the human body get effective exercise, so as to improve physical function.⁴ As an important part of the development strategy of a modern power, national fitness and healthy China's two national strategies provide a guarantee to meet the people's needs for a better life in the new era.

The rise of national fitness makes sports enter thousands of families and become a meaningful part of people's daily life, which plays an obvious positive role in spiritual civilization, physical and mental health, and improving productivity.⁵ Basketball is rich in diversity in the process of sports, and the intensity and load of sports are suitable for people of different ages to participate in. Therefore, basketball has a positive and effective role in carrying out the national fitness program, improving the overall level of Chinese basketball, and improving the physical and mental health of the masses.⁶ Proper and reasonable exercise is the basis of ensuring physical health, so national fitness has become an important prerequisite for national health, and the two are closely related and feasible to integrate.⁷ In this paper, the significance of the integration of national fitness and national health as a starting point, for basketball on the health of people of different ages were analyzed, and put forward the corresponding guidance strategy.

The significance of the integration of national fitness and national health

Meet the development needs of the times

People's health is the premise of people's development and function. Through national fitness, it is conducive to promote the smooth development of national health and guide the people to implement the exercise of healthy physique. Therefore, it is necessary to promote the realization of the goal of a well-off society for all people on the basis of national health.⁸ Basketball is a kind of non periodic movement in which the bones, joints and muscles of the whole body are connected with each other. Exercise can prevent the loss of calcium ions in the human bones, make the human bones strong and strong, improve the density of the bones, make the human bone hard, not easy to fracture, bone fracture and other symptoms. Basketball is all over the world. You can see the shadow of basketball everywhere in indoor gymnasiums and outdoor courts. In basketball, the joints of the human body are constantly moving, which will become more flexible, enlarge the joint surface of the local area of the human body, and expand the movement space and flexibility of the body joints. Regular basketball can also train the whole body muscle activity and muscle strength, reduce the accumulation of fat in the body, increase muscle tolerance, and improve the body shape. Leisure time is one of the

important factors affecting the development of mass sports. At present, farmers, retirees and individual workers have more leisure time in China. Due to the strong game, entertainment and interest of basketball, the amount of exercise can be controlled according to the actual situation of the participants, and the required equipment and venues can be generally satisfied, so it can cultivate people's sentiment and enrich people's spare time life. The stronger the economic strength and the higher the level of social development, the closer the system will be built to the grassroots and the residents. In addition, China also has obvious characteristics of strong units.

Promoting the upgrading of health industry

The upgrading and transformation of health industry is the necessity of social development in the new era, and it is also an important way to improve the quality of Chinese people, which is consistent with the development of China's social reality. The traditional health industry mainly focuses on disease treatment. At present, it has begun to transform to disease prevention. Therefore, health products also need to be combined with people's reality. Often participate in basketball exercise, can effectively improve the reaction ability of the human central nervous system and speed up the speed of reflex action, in order to improve the human body's keen observation of things and response speed to action. In order to achieve the basic goal of improving the health quality of the whole nation, the national fitness system we have built is a service and security system that can continuously supply and improve the sports fitness environment and conditions for all the people, basically meet the diversified sports fitness needs of all the people, and significantly improve the health quality of all the people. The main purpose of sports industry is not only economic benefits, but also disease prevention and control. With the promotion and strengthening of people's health awareness, the importance of disease prevention is increasing.

The role of basketball in the development of human and society

Promote the development and perfection of personality

The integration of national fitness and national health needs the management and synergy of multiple departments, and needs diversified management to solve people's health problems. Through national fitness, people's fitness behavior can be guided and intervened to achieve the purpose of disease prevention, treatment and rehabilitation. In sports, we should not only achieve the effect of physical fitness, but also give people a visual enjoyment. When we make beautiful technical movements in the basketball game, shooting and scoring, we can bring ourselves success, joy and satisfaction, at the same time, we can also win the praise and affirmation of our peers around us, which will strengthen our self-confidence and the whole team. China's sports resource management tends to competitive sports, which makes the development of school sports and mass sports lag behind, resulting in the separation of management rights and responsibilities and lack of fit between them. (Figure 1)

For training practice, the difference between the measured results of the maximum isometric force and the maximum centrifugal force can make a preliminary evaluation of the self-excited ability of the corresponding muscles mobilized in the test. In ankle joint, there is only one peak value of muscle torque during the supporting period. The plantar flexion moment of ankle joint in acceleration stage is less than that in maximum speed stage. Comparison of bending moments of different joint parts in different time periods is shown in Figure 2.

Cultivate a civilized and healthy lifestyle

With the continuous improvement of material living standard and spiritual and cultural level, people's requirements for spiritual and cultural life are getting higher and higher, not only in the past, but also in keeping fit and healthy lifestyle. Basketball not only has the effect of strengthening

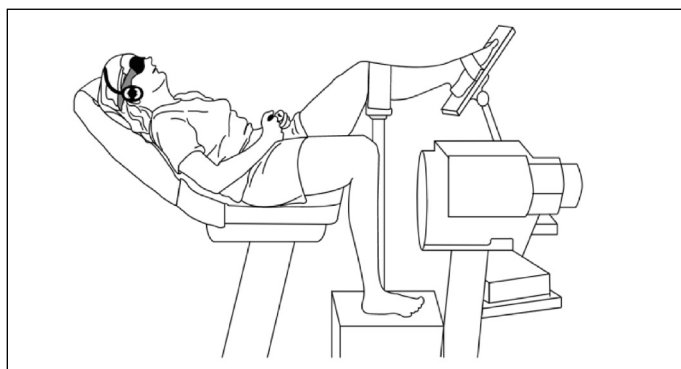


Figure 1. Ankle joint proprioception assessment test.

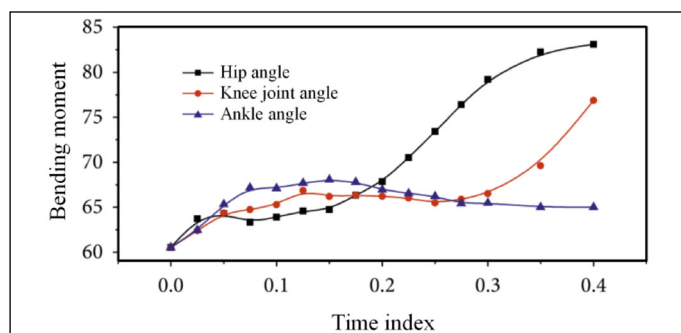


Figure 2. Comparison of flexion moments of different joints at different time periods.

the body, but also is full of fun and appreciation. While exercising, it can not only bring satisfaction to the players, but also bring visual enjoyment to the viewers. Under the development of national fitness, it is particularly important to strengthen the construction of integration mechanism, which can provide effective guarantee by perfecting system laws. However, according to the integration of national fitness and national health in China, it is still in the primary stage, and the construction of policies and regulations is imperfect. The integration of laws and regulations in various departments is too limited, and only stays in a single field of sports or health, lacking multi-sectoral collaborative legislation and all-round management mechanism construction. Basketball, as a collective sport, needs coordination and organization among members in the process of development, and needs to strengthen management in the process of activities, especially when the venue conditions can not fully meet the needs. (Table 1)

In the process of optimization modeling of joint injury caused by Overtraining of basketball players, the vector set of joint injury caused by Overtraining of basketball players is established

$$dR_i^r = \xi \cdot a_x(t) \cdot dt + \zeta \cdot a_x(t) \cdot dw_i - dU_i^r \quad (1)$$

The knee joint is mainly composed of tibial femoral joint and patellofemoral joint. In the process of optimization modeling of joint injury caused by Overtraining of basketball players, the following formula can be obtained according to the above formula:

$$dR_i = \chi \cdot a(t) \cdot dt + \delta \cdot a(t) \cdot dw_i \quad (2)$$

In the process of optimization modeling of joint injury caused by Overtraining of basketball players, R represents the orthogonal transformation matrix of joint injury caused by Overtraining of basketball players. The transform code gain of R is defined by the following formula:

$$R = \omega L + \frac{1}{\omega C} \quad (3)$$

In the process of optimizing the modeling of joint injury caused by overtraining of basketball players, according to the above formula:

$$B_k(x, y) = |f_k(x, y) - B(x, y)| \quad (4)$$

The test results of each mechanical index before and after training are counted, and the experimental results are shown in Figure 3.

Basketball is a process of rational use of skills and tactics, and it is a comprehensive test of strength, endurance, coordination and central nervous system of participants. In China's national fitness and the development of national health strategy, there is an imbalance in the setting of fitness places, equipment and service personnel. Resources such as health care and physical fitness are concentrated in developed cities in the central and eastern parts of China, while resources in western cities are relatively scarce, and the gap between urban and rural areas is obvious, especially in some poor areas. Basketball is a comprehensive, complex and changeable collective sport, which has the characteristics of diversity of sports content and variability of sports process. The integration of national fitness and national health needs to be based on the guidance and encouragement of national policies, do a good job in transforming government functions, simplify administration and decentralize power, and adopt new requirements and measures, so that relevant government units can become the guides and service providers of the integration of national fitness and national health. Therefore, we must do a good job in the transformation of government functions and strengthen the performance of public sports service duties.

Table 1. Statistics of causes of sports injuries of basketball players.

Influencing factor	Number of people
Inadequate preparation activities	6
Technical actions are not standardized	6
Poor self-protection ability	4
Training with injuries	23
Poor mental state	2
Excessive local burden	13
Poor confrontation ability	3

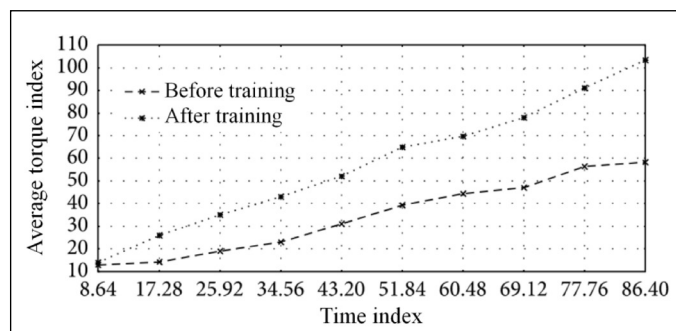


Figure 3. Comparison of average muscle strength at various time periods before and after training.

CONCLUSIONS

The deep integration of national fitness and national health is conducive to improving the overall physical quality of Chinese people, thus promoting the improvement of China's comprehensive national strength. However, because the integration of national fitness and national health in China is still at the initial stage, there are many problems in the concrete implementation process. Basketball has great attraction among the masses, so the popularity of basketball has a good mass and material foundation. Since basketball was introduced into China, more and more sports enthusiasts have invested in this project. Basketball, as a collective

sport, needs coordination and organization among members in the process of development, and needs to strengthen management in the process of activities, especially when the venue conditions can not fully meet the needs. Basketball plays an important role in promoting individual self-confidence, forming the will of tenacious struggle, the collectivism spirit of unity and cooperation, expanding interpersonal communication and relieving work pressure and social pressure. The integration of national fitness and national health needs to be based on the guidance and encouragement of national policies, do a good job in transforming

government functions, simplify administration and decentralize power, and adopt new requirements and measures, so that relevant government units can become the guides and service providers of the integration of national fitness and national health. Vigorously promoting and developing basketball and giving full play to its advantages will be conducive to the spread and promotion of the concept of national fitness in society.

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