

# COMMON SPORTS INJURIES AND HEALTH SERVICES IN THE ELDERLY

LESÕES ESPORTIVAS COMUNS E SERVIÇOS DE SAÚDE EM IDOSOS

LESIONES DEPORTIVAS COMUNES Y SERVICIOS SANITARIOS EN LA TERCERA EDAD



ORIGINAL ARTICLE  
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## ABSTRACT

**Introduction:** The integration of sports into medicine is to optimize the allocation of health resources, improve the efficiency of health services, and promote the health level of the entire population through the mutual integration and coordination of resources from sports and medical systems. **Objective:** Investigate and analyze the common factors of sports injuries in the elderly after participation in sports, providing a reference for the scientific formulation of sports programs and health promotion services in the elderly. **Methods:** The risk factors of sports injuries in elderly people aged 60-75 years in three cities were investigated, including organization management, sports environment, sports items, and other factors were statistically analyzed. The risk assessment index system of sports injuries in the elderly and the types and causes of common sports injuries were summarized by statistical methods. **Results:** There are many reasons for sports injuries in the elderly, including subjective and objective factors, but the common sports injuries come mainly from subjective factors, mainly pelvic girdle, knee, and ankle. **Conclusion:** It is necessary for the elderly to participate in physical exercise, fully recognizing the risks of the possible sport to take preventive measures for sports injuries. Once there is a sports injury in the process of exercise, measures should be taken the first time for intervention treatment. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

**Keywords:** Aged; Injuries, Sports; Health Services.

## RESUMO

**Introdução:** A integração do esporte na medicina é otimizar a alocação de recursos de saúde, melhorar a eficiência dos serviços de saúde e promover o nível de saúde de toda a população através da integração e coordenação mútua dos recursos dos esportes e dos sistemas médicos. **Objetivo:** Investigar e analisar os fatores comuns de lesão esportiva em idosos após a participação em esportes, fornecendo uma referência para a formulação científica de programas esportivos e serviços de promoção da saúde nos idosos. **Métodos:** Os fatores de risco de lesões esportivas em idosos de 60-75 anos em três cidades foram investigados, incluindo gestão da organização, ambiente esportivo, itens esportivos e outros fatores foram analisados estatisticamente. O sistema de índice de avaliação de risco de lesões esportivas em idosos e os tipos e causas de lesões esportivas comuns foram resumidos por métodos estatísticos. **Resultados:** Há muitas razões de lesões esportivas em idosos, incluindo fatores subjetivos e objetivos, mas as lesões esportivas comuns vêm principalmente de fatores subjetivos, principalmente na cintura pélvica, no joelho e no tornozelo. **Conclusão:** É necessário que os idosos participem do exercício físico, reconhecendo plenamente os possíveis riscos esportivos para tomar medidas preventivas para as lesões esportivas. Uma vez que haja uma lesão esportiva no processo de exercício, medidas devem ser tomadas na primeira vez para tratamento de intervenção. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

**Descritores:** Idoso; Lesões Esportivas; Serviços de Saúde.

## RESUMEN

**Introducción:** La integración del deporte en la medicina tiene como objetivo optimizar la asignación de recursos sanitarios, mejorar la eficiencia de los servicios sanitarios y promover el nivel de salud de toda la población mediante la integración y coordinación mutua de los recursos de los sistemas deportivos y médicos. **Objetivo:** Investigar y analizar los factores comunes de las lesiones deportivas en los ancianos tras la práctica deportiva, proporcionando una referencia para la formulación científica de programas deportivos y servicios de promoción de la salud en los ancianos. **Métodos:** Se investigaron los factores de riesgo de las lesiones deportivas en personas mayores de 60-75 años en tres ciudades, incluyendo la gestión de la organización, el entorno deportivo, los artículos deportivos y otros factores fueron analizados estadísticamente. El sistema de índice de evaluación del riesgo de las lesiones deportivas en los ancianos y los tipos y causas comunes de las lesiones deportivas se resumieron mediante métodos estadísticos. **Resultados:** Hay muchas razones para las lesiones deportivas en los ancianos, incluyendo factores subjetivos y objetivos, pero las lesiones deportivas comunes provienen principalmente de factores subjetivos, sobre todo en la cintura pélvica, la rodilla y el tobillo. **Conclusión:** Es necesario que los ancianos participen en el ejercicio físico, reconociendo plenamente los posibles riesgos deportivos para tomar medidas preventivas de las lesiones deportivas. Una vez que se produce una lesión deportiva en el proceso de ejercicio, deben tomarse medidas en el primer momento para el tratamiento de intervención. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

**Descriptor:** Anciano; Lesiones en Deportes; Servicios de Salud.



## INTRODUCTION

Integration of sports and medicine is the combination of sports and medicine, and it is the collection of sports medicine, health care sports, rehabilitation medicine, medical nutrition, health assessment, exercise prescription and many other knowledge.<sup>1</sup> Closely integrated with physical education, they complement each other, penetrate each other and promote each other. At present, the concept of integration of sports and medical services has been integrated into the overall planning of building a healthy China, and the laws and regulations and related policies that can promote the integration and development of sports and medical services have been improved, so as to promote the new business development policy of linking up the existing policies of sports and medical services.<sup>2</sup> Health promotion is the primary ethical value of the modern fitness trend. From "passive medical treatment" that vigorously developed clinical medicine in the past to "active health" that now attaches importance to the health promotion function of sports, the sublimation of the concept plays an incomparable role in promoting the integration of body and medicine.<sup>3</sup> At present, the actual health status of the elderly in China is not optimistic. According to the related literature, about 30% of the elderly have poor physical examination results, are deeply troubled by various chronic diseases and sudden diseases, and are in a sub-health or even sick state for a long time.<sup>4</sup> The aging of population is a global problem, and at the same time, the aging of population is a new basic national condition that China's economic development must consider in the 21st century. The aging population has brought many problems to China's economic construction.<sup>5</sup> It brings a series of profound and lasting challenges to the construction of an aging and healthy China. Aging not only means the deterioration of labor ability, but also may face a variety of diseases. In the contradictory movement between rapid aging and healthy China, sports, as a good doctor, is an important starting point for implementing healthy China. However, the elderly are not the mainstream people who integrate body and medicine, and the fitness activities for them are extremely scarce.

Studies have shown that moderate physical activity can positively promote health.<sup>6</sup> With the increase of age, all indexes of the physical function of the elderly are constantly decreasing or even becoming disabled. It is of great significance to make a reasonable exercise prescription and increase physical activity in an appropriate amount to strengthen the physique of the elderly and reduce the risk of illness.<sup>7</sup> Therefore, how to innovate the health management mode under the concept of integration of body and medicine is a top priority. Health literacy of the elderly, scientific sports concept, general knowledge of medical health and scientific knowledge of physical fitness need the integration of physical exercise and medical security.<sup>8</sup> However, the spontaneity and randomness of sports fitness for the elderly are relatively high, and the scientific coefficient and safety coefficient are relatively low, which makes the probability of sports injury for the elderly higher.<sup>9</sup> Based on this, this paper studies the common sports injuries and health service problems of the elderly under the background of integration of body and medicine.

### Integration of sports and medicine

With the development of China's economy, the improvement of medical and health level and the change of national population policy, China's old age structure has initially taken shape, and China has begun to step into an aging society.<sup>10</sup> The acceleration of population aging is accompanied by related chronic diseases. How to control and reduce the incidence of chronic diseases, improve the health status of the elderly, and reduce the medical expenses and social burden has also become the focus of national and social attention. The aggravation of aging makes the number of elderly people in the society increasing, especially

for some elderly people suffering from osteoporosis, hypertension and other diseases, their physical health problems are more important. At present, the elderly are paying more and more attention to health problems. Exercise can greatly help the elderly to keep healthy. How to guide the elderly to form a correct healthy lifestyle, improve their health literacy and guide them to avoid sports injuries and recovery methods is of great significance and can promote the healthy development of the elderly in China. "Integration of sports and medicine" is actually a blend between community sports and the urban health service system under construction. It makes use of the advantages of community medical and health institutions in the fields of technology, facilities and personnel to promote the coordination and compensation between sports departments and medical and health departments in various fields, improve people's physical fitness and prevent diseases. The effective integration of sports resources and medical resources provides an effective way for national fitness. The concept of integration of sports and medicine has different interpretations in different fields. In sports, it is integration of sports and medicine to pay more attention to some medical knowledge. In medicine, the emphasis is on medical students learning some knowledge of sports health care, which is the combination of medicine and body.

While the elderly improve their condition through fitness exercise, it also leads to sports injuries. For example, in the fitness brisk walking and jogging events, although the exercise intensity is low, irregular movements and long-term consumption will still cause sports injuries. The elderly have a corresponding sense of exercise, but they don't know what exercise is suitable for them, and they have a high demand for exercise prescription, health examination and medical records, which may be due to the lack of these services. To promote the healthy development of the elderly, we must decide to formulate reasonable standard public policies, strengthen the health promotion behavior of the elderly, effectively promote and guide the elderly's fitness activities, and formulate and implement a good plan. As a new profession, health manager is paid more and more attention by people. The health management work of health managers includes testing, evaluation, health intervention and other aspects. These different links form a closed loop of health management, and a continuous cycle process composed of small cycles can achieve the effect of controlling health risks and keeping people healthy. The mutual blending and coordinated development of "physical medicine" provides the guarantee of prevention, treatment of diseases and rehabilitation care for national physical health. At the same time, as an effective way of the national fitness program, the integration of sports and medical resources has been realized, which has played a very positive role in the effective development of national fitness and health services for the elderly.

### Common sports injuries of the elderly

The study is Purely observational studies which no need to registry ID of ICMJE, and all the participants were reviewed and approved by Ethics Committee of Qingdao Agricultural University, China (NO. 2021037)

### Research object and method

This study takes the common sports injuries and health services of the elderly under the background of integration of body and medicine as the research object, and takes the elderly who have participated in the integration of body and medicine as the investigation object for research and analysis. In this paper, the risk factors of sports injuries of the elderly aged 60-75 in three cities were investigated, including organization and management, sports environment, sports events and other factors for statistical analysis. The data were statistically analyzed by SPSS, and the risk evaluation index system of sports injuries for the elderly and the types and causes of common sports injuries were summarized.

Literature method: through the library, literature search and Internet search for relevant information, read and study the sports injuries of the elderly.

Questionnaire survey: The elderly aged 60-75 in three cities were surveyed, 500 questionnaires were distributed, and 482 valid questionnaires were received, with an effective rate of 100%.

Observation: Observe the physical exercise of the elderly and find out the problems.

### Common types of sports injuries in the elderly

Because the old people's technical movements are inaccurate, the essentials of movements are not well mastered, and the range of movements violates the objective laws, it is easy to violate the body structure, functional characteristics and biomechanical principles during exercise, and it is very likely that injuries will occur. Table 1 shows the health behaviors of the elderly aged 60-75 in three cities.

Sports should meet the needs of the elderly, promote the formation of a healthy lifestyle, and form a training mode of the healthy lifestyle of the elderly, which deeply integrates medicine, nursing and health, by carrying out activities that conform to their individual characteristics and healthy lifestyle. Among all the actual injuries, sports injuries are not caused by a simple reason. Athletes' psychological characteristics, physical quality, sports environment, sports facilities and so on are different, and the injury factors are different. Table 2 shows the types of common sports injuries of the elderly.

From the table, it can be seen that the injured parts show certain regularity, and the main injuries are concentrated in the waist, knees and ankles. Most sports injuries are caused by training conditions, training time and large amount of exercise. The stronger the training intensity, the longer the training time, the easier it is to cause sports injuries. Table 3 shows the causes of common sports injuries in the elderly.

It can be seen that there are many reasons for sports injuries of the elderly, including subjective and objective factors, but common sports injuries mainly come from subjective factors. Through the investigation and analysis of the causes of sports injuries of the elderly, this paper finds that the potential risks of the environment, venues, equipment, physical fitness and sports skills, sports knowledge, sports experience and sports events of the elderly in physical exercise will all become potential safety hazards for the elderly to be injured in sports.

**Table 1.** Health behaviors of the elderly aged 60-75 in three cities.

Group	N	Psychologic equilibrium	Reasonable diet	Moderate exercise	Regular physical examination	No drug abuse
Observation group	100	91	88	82	85	90
Control group	100	74	70	68	71	73
$\chi^2$ value	-	7.78	8.55	6.31	10.98	13.58
P value	-	0.004	0.003	0.015	0.001	<0.001

**Table 3.** Causes of common sports injuries in the elderly.

Serial number	Cause of damage	Proportion
1	Common sense of causing damage is not enough	22.36%
2	Not knowing enough about one's physiology	19.37%
3	Lack of understanding of one's own psychology	15.21%
4	Insufficient preparation activities	11.05%
5	Not enough relaxation and recovery	14.06%
6	Site equipment is not standard	12.11%
7	Other reasons	5.84%

**Table 2.** Types of common sports injuries in the elderly.

Serial number	Injury site	Proportion
1	Ankle joint	37.24%
2	Lumbar joint	15.86%
3	Knee joint	15.65%
4	Shoulder joint	11.54%
5	Elbow joint	5.98%
6	Finger joint	8.36%
7	other	5.37%

### Health services for the elderly

The supervision of community sports health services for the elderly should adhere to the principle of government-led and social assistance. Mobilizing all social forces to develop sports for the elderly is conducive to the improvement of the physical fitness of the elderly and the construction of socialist material and spiritual civilization. At the same time, the means of health intervention is very important in the health management of the elderly, and the purpose of controlling health risks by means of exercise is a hot research issue in the present society. Formulating a reasonable exercise prescription can effectively meet people's health needs. Especially for the elderly, the way of exercise intervention is relatively economical, and the form of exercise is generally carried out in small groups, which can meet the basic social needs of the elderly and achieve the effect of physical and mental pleasure. Medical experts suggest that a safe, effective and scientific prescription for fitness exercises should include preparatory activities, aerobic exercises, exercises with bare hands or proper weight bearing, and finishing activities. Therefore, it is very important to prepare and organize activities. Generally, the whole body activities such as brisk walking, jogging and in-situ continuous unarmed gymnastics are used for preparation. Generally, the time is about 10 minutes. If you are older, your training level is poor, or in a hot environment, don't take too long or too long to prepare, so as not to cause fatigue. Community hospitals should cooperate with each other to provide personalized services for the elderly. The government should pay attention to carrying out fitness activities for the elderly according to local conditions and provide a perfect medical supervision system, so as to promote the formation of a disease management and health service model of "integration of body and medicine".

### CONCLUSIONS

By using the methods of literature review and comparative analysis, this paper analyzes the current situation of the integration of lower body doctors in the background of modern national fitness, and finds that: (1) the popularization of sports health promotion concept is not in place at present. (2) Sports injuries caused by unreasonable and unscientific fitness methods are common. (3) Lack of attention to the fitness activities of the elderly. It is necessary for the elderly to take part in physical exercise, but they need to be fully aware of possible sports risks and take measures to actively prevent possible sports injuries. Once sports injuries occur during exercise, we should take measures to intervene and treat them as soon as possible. This paper holds that the elderly should have necessary physical examination before exercise. This is not only an understanding of one's own physique and health status, but more importantly, one can find potential diseases and risk factors. At the same time, the elderly should choose the movement difficulty and exercise load according to their own physical function and exercise ability, and adjust their mentality; Prevent the dislocation between fitness and competition, and try to use little or no difficult technical movements in exercise. During exercise, we should strengthen the cultivation of self-protection ability, and put an end to exercise with injury or illness,

so as to avoid aggravation of injury and delay of treatment. In addition, this paper holds that the future development of integration of sports and medicine in China should be implemented from the following points: (1) Interpret the newly issued national fitness policy in time and strengthen the popularization of theoretical knowledge. (2) Implement the policy orientation of “sports+science and technology” to empower science and technology information technology to sports. (3) Improve

the medical supervision system for the elderly, and promote multiple collaborative governance. In order to provide a reference for the scientific and rational formulation of sports programs and health promotion services for the elderly.

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