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RESEARCH ON OCCUPATIONAL PRACTICAL PHYSICAL EDUCATION IN PHYSICAL EDUCATION TEACHING OF HIGHER VOCATIONAL REHABILITATION SPECIALTY

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Abstract: This article uses literature, questionnaires, experiments and other methods to explore the application of vocational practical physical education teaching in rehabilitation majors in higher vocational colleges, so as to improve health, enhance physical fitness, and strengthen professional development for rehabilitation majors., Occupational health care capabilities and prevention of occupational diseases provide theoretical and practical references. The experimental results show that through targeted occupational practical physical education teaching, the test scores of the "National Students' Physical Health Standards" have been greatly improved, indicating that occupational practical physical education can promote the improvement of students' physical health, especially in endurance., strength and quality have been significantly improved; the total score of the functional movement screening FMS test of students and the scores of each item have an upward trend, indicating that professional practical sports can enhance body flexibility, stability and flexibility; through professional skills The test found that the growth of endurance and strength has a certain impact on students' professional skills. In addition, students have a deeper understanding of the prevention of occupational diseases and master scientific exercise methods to prevent occupational diseases.
Keywords: Occupational practical physical education; Vocational rehabilitation specialty; Physical education teaching

1. INTRODUCTION

In October 2020, the "Opinions on Comprehensively Strengthening and Improving School Sports Work in the New Era" issued by the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council pointed out that the combination of physical education courses in vocational education and vocational skills training should cultivate students who are physically and mentally healthy and have sports expertise. technical talent [1]. Occupational practical physical education, on the basis of general physical education teaching, combined with the professional characteristics of students and the requirements of future occupations, teaches to eliminate occupational physical and mental fatigue, prevent occupational diseases, and cultivate the physical quality, physical fitness and occupational health care capabilities required by occupations [2]. In his work, he can not only guide patients to carry out reasonable exercise rehabilitation treatment, but also master scientific exercise methods to prevent occupational diseases. This paper aims to promote the reform of physical education curriculum in higher vocational colleges through the research of vocational practical physical education, and provide theoretical basis and practical value for the cultivation of technical talents with physical and mental health[3].
Provide new curriculum reform ideas for the professional development of higher vocational colleges.

2. THE IMPORTANCE OF CARRYING OUT VOCATIONAL PRACTICAL PHYSICAL EDUCATION TEACHING

In addition to strengthening students' physical fitness, mastering sports skills and cultivating good sports habits as the curriculum goals, physical education teaching should also refer to the needs of students' future career development and combine professional characteristics to formulate a vocational and practical physical education teaching plan suitable for higher vocational colleges. On the basis of traditional physical education courses combined with professional characteristics and needs, that is, the requirements of the job position for sports knowledge, technical skills, physical fitness and occupational health care capabilities, through reforming the content, form, methods and evaluation of physical education, to teach occupation-related sports Knowledge, motor skills, and professional development of students. Closely combine public physical education courses with professional personnel training, further strengthen the practical function of physical education, make due contributions to the cultivation of high-quality laborers and technical and technical personnel with healthy mind and body, and meet the society's demand for compound talents.

3. RESEARCH OBJECTS AND METHODS

3.1 Objects

In this paper, 49 students majoring in rehabilitation in grade 2020 of our school were taken as the experimental subjects, including 18 boys and 31 girls. The experiment time was one semester, 2 class hours per week, a total of 36 class hours.

3.2 Method

3.2.1 Questionnaire survey method

A questionnaire survey was conducted on 49 students majoring in rehabilitation to understand the situation of occupational practical sports and occupational disease prevention. A survey was conducted on 101 interns and graduates majoring in rehabilitation to understand the situation of occupational diseases and prevention of occupational diseases. 100%.

3.2.2 Measurement method

(1) Conduct the "National Student Physical Health Standards" test for students, choose grip strength, vital capacity, 800 meters (female), sit-ups (female), 1000 meters (male), pull-ups (male), sitting and forward bending As a measure of physical fitness, lung capacity, 800 meters, and 1000 meters reflect cardiopulmonary function and endurance; pull-ups, grip strength, sit-ups reflect upper limb strength, waist and abdomen strength, and sitting and forward bending reflect flexibility. (2) Conduct functional movement screening (FMS) tests on students, including squats, strides over hurdles, straight split-leg lunges, shoulder joint flexibility, active straight leg raises, trunk stability push-ups, and rotational stability 7 sports items were used to reflect the subjects' physical flexibility, stability and flexibility.

3.2.3 Practice method

The occupational characteristics of the rehabilitation profession are long-term hand operation, frequent bending, and many partial body activities. It requires good physical fitness, such as physical fitness, strength, endurance, stability, and coordination, as well as good arm strength, shoulder and back strength., waist and abdomen strength, and upper and lower body strength. According to the teaching tasks of physical education courses combined with the characteristics of professional physical fitness, aerobic exercise (aerobics, jogging), ball games (basketball, volleyball), strength exercises (equipment Exercises and physical fitness exercises), traditional Chinese fitness exercises (Wu Qin Xi, Ba Duan Jin), stretching exercises (yoga), medical gymnastics training, etc. Rope skipping and clock-in sports, each sports event consists of 3 items in 6 modules, such as Baduanjin, strength exercises, stretching exercises, etc.

3.2.4 Professional skill assessment

On the basis of a comprehensive analysis of the operating characteristics of rehabilitation occupational skills, the strength and durability of massage techniques are used as evaluation indicators. Students are required to operate according to the 5 manipulations of massage: rolling, pressing, pointing, pushing, and rubbing. Each manipulation should be ≥100 times. During the operation, students will be scored according to the manipulations. Fully reflect the students' physical endurance and strength.

3.2.5 Mathematical statistics method

Use statistical software to analyze and count the data.

4. RESULTS AND ANALYSIS

4.1 Comparison of Test Data of "National Student Physical Health Standards"

It can be concluded from Table 1 that through vocational practical physical education teaching, students' lung capacity, grip strength, 1000 meters (male), pull-ups (male), 800 meters (female), sit-ups (female), sitting and forward bending The test scores of all the tests have been greatly improved, and there are significant differences ($P<0.05$), which shows that professional practical sports can promote the improvement of students' physical health, especially in the aspects of endurance and strength.

4.2 Comparison of Functional Movement Screening FMS Tests

It can be concluded from Table 2 that the total score of the students' functional movement screening FMS test has been greatly improved, from 14.97 points to 17.42 points, which has reached a very significant level ($P<0.01$), and the scores of each test item are all the same. There is an upward trend, in which squats, straight-line split lunges, trunk stability push-ups, and rotational stability have been significantly improved, reaching a very significant level ($P<0.01$), striding over the hurdle, and active straight-leg raising 1. Although the shoulder flexibility did not reach a significant level, it was improved compared with before the experiment.

4.3 Comparison of Tuina Manipulation Test Results

It can be concluded from Table 3 that through vocational practical physical education teaching, students' professional skills scores have been significantly improved, and the total score has increased from 80.3 points to 88.9 points, reaching a significant level ($P<0.05$).

4.4 Students' Understanding of Occupational Practical Sports

From Table 4, it can be concluded that 79.5% of the students did not understand the concept of professional practical physical education before they were exposed to professional practical physical education. With a clear understanding, in the future physical education teaching, it is necessary to further formulate the physical education teaching content in line with the characteristics of the students' majors, give full play to the physical education teaching as a professional service, promote the better development of the major, encourage students to participate in practice practice, and use it in the actual work position. Strengthen occupational practical physical fitness in a targeted manner.

Table 1 Comparison of test results in the "National Student Physical Health Standards" (N=49)

Test items	Before the experiment (mean)	After test (mean)	P value
Vital capacity (ml)	3179	3878	
Grip strength (kg)	33.5	37.6	
Sit-ups (female n)	33	37	p<0.05
pull-up (male n)	8	12	
800 meters (female s)	4.17	4.00	
1000 meters (male s)	4.23	4.03	
Sitting forward bend (cm)	11.8	16.4	

Table 2 Comparison of functional movement screening FMS tests (N=49)

Test items	Before the experiment (mean)	After test (mean)	P value
total score	14.97	17.42	P<0.01
squat	2.03	2.55	P<0.01
step over the hurdle	2.23	2.42	P>0.05
straight split lunge	2.12	2.51	P<0.01
shoulder mobility	2.36	2.62	P>0.05
active straight leg raise	2.32	2.60	P>0.05
Trunk Stability Pushups	1.95	2.35	P<0.01
rotational stability	1.96	2.37	P<0.01

Table 3 Comparison of test results of massage techniques (N=49)

Assessment of massage techniques	Before the experiment (mean)	After test (mean)	P value
score	80.3	88.9	P<0.05

Table 4 Students' understanding of occupational practical sports (N=49)

	Before the experiment		After the test		
know very well	basic understanding	don't know don't know	very basic understanding	do not knowdo not much	do not understand
0	10	22 17	19 30	0	0
0%	20.4%	44.9% 34.6%	38.8% 61.2%	0%	0%

Table 5 Students' understanding of occupational diseases (N=49)

	Before the experiment	After the test		
know very well	Basic understanding Little understandingDon't understand	very basic understanding	do not knowdo not much	do not understand
0	7 30 12	20 29	0	0
0%	14.3% 61.2% 24.5%	40.8% 59.2%	0%	0%

4.5 Students' Understanding of Occupational Diseases

From Table 5, it can be concluded that 85.7% of the students did not know much about the occupational diseases of the rehabilitation major before they were exposed to occupational practical physical education. After the teaching of occupational practical physical education, the students' understanding of occupational diseases reached 100%. Students have a deep understanding of occupational characteristics and the occurrence of occupational diseases, laying a good foundation for the prevention of occupational diseases in the future.

4.6 Occupational Diseases that Students Majoring in Rehabilitation

From Table 6, it can be concluded that through questionnaire surveys and interviews with rehabilitation interns and graduates, most of the students who have been engaged in rehabilitation work reported that the occupational diseases most likely to suffer from were waist and back muscle strain, cervical spondylosis, thumb tenosynovitis, Shoulder and wrist injuries, the cause of occupational diseases are mostly traditional rehabilitation treatments, such as acupuncture, massage, physical therapy, and some manipulations. The working hours are long, the workload is heavy, and it is often necessary to bend down, bow your head and use manipulations to treat patients. It takes a long time Keeping bad postures such as bending over or holding the chest for many times can easily cause fatigue and cause damage to muscles, joints, and ligaments. Moreover, when performing treatment, rehabilitation therapists not only need to sit, but also often need to sit, kneel, etc. Different postures, such as the lower body position, consume a lot of physical energy, so physical exercise should be strengthened, especially the strength of the back muscles and upper limbs, so as to improve one's physical and psychological quality, maintain an optimistic attitude, and improve the therapeutic effect.

Table 6 Occupational diseases that students majoring in rehabilitation are susceptible to (N=101)

	N	percentage
thumb tenosynovitis	68	67.3%
Shoulder and Wrist Injuries	57	56.4%
cervical spondylosis	89	88.1%
Lumbar and back muscle strain	97	96%
mental stress	32	31.7%
knee injury	34	33.7%

4.7 Occupational Practicality and General Physical Education Teaching on the Occupational Disease Prevention of Rehabilitation Major Interns and Graduates

It can be concluded from Table 7 that through follow-up, follow-up and questionnaire survey, the interns and graduates of rehabilitation majors, and the students who have received occupational practical physical education in school, are 100% aware of the prevention of occupational diseases, and the students of ordinary physical education are only 100%. There are 23% of them. Occupational practical physical education can improve physical health, have better occupational physical fitness, and be more active in the prevention of occupational diseases, so as to have better occupational physical fitness and methods of preventing occupational diseases. It really plays a role not only in work Instructing patients to carry out rehabilitation exercises can more effectively prevent the incidence of their own occupational diseases.

4.8 Prevention of Occupational Diseases for Rehabilitation Students

The occupational diseases that students majoring in rehabilitation are most likely to suffer from are waist and back muscle strain, cervical spondylosis, thumb tenosynovitis, shoulder and wrist injuries, and increase arm strength, shoulder and back strength, waist and abdomen strength, knee joint and ankle joint strength through targeted exercises. Mobility and stability and coordination of upper and lower limbs, reducing the risk of sports injuries.

Table 7 Occupational practicality and general physical education teaching on the occupational disease prevention of rehabilitation major interns and graduates (N=101)

vocational practical physical education		general physical education	
Can prevent occupational diseases	Occupational diseases cannot be prevented	Can prevent occupational diseases	Occupational diseases cannot be prevented
49	0	12	40
100%	0%	twenty three%	76.9%

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

First, vocational practical physical education can promote the improvement of students' physical health, especially in terms of endurance and strength. Due to the obvious increase in students' overall strength, professional skills and massage techniques have been further guaranteed. .
Second, vocational practical physical education teaching can improve students' functional movement screening FMS test scores, strengthen the strength, agility, and flexibility of the lower back, knee joints, and ankle joints, promote physical stability, coordination, and flexibility, and cultivate The physical fitness and stamina required by the profession.
Third, the improvement of students' physical fitness has a certain impact on students' professional skills. In addition, students have a deeper understanding of the prevention of occupational diseases, and master scientific exercise methods to prevent occupational diseases, prompting them to adjust their body postures in time at work, massage time and strength, and focus on strengthening arm strength, back and abdomen strength, leg strength, cervical spine movement and core strength of the body, develop physical fitness and strength quality of the body, cultivate good massage postures, and strengthen learning of occupations of physical and mental health Practical sports knowledge and methods to develop professional physical fitness.
The fourth is to track the interns and graduates of rehabilitation majors to reflect that occupational practical physical education can improve physical health, have better occupational physical fitness, and be more proactive in preventing occupational diseases, so as to have better occupational physical fitness and prevent occupational diseases. This method has really played a role in not only guiding patients to carry out rehabilitation exercises at work, but also effectively preventing the incidence of their own occupational diseases.
Fifth, professional practical sports and professional development are complementary and mutually reinforcing. We must give full play to physical education teaching as a professional service, so that students have good professional physical fitness and promote the development and improvement of professional skills.

5.2 Recommendations

Higher vocational colleges should carry out vocational practical physical education teaching based on the actual needs of the industry, so that public physical education courses can be closely integrated with the cultivation of professional talents, further strengthen the practical function of physical education, better improve professional skills, and meet the needs of the society for compound medicine. The demand for talents is not only to develop occupational physical fitness, teach to eliminate occupational physical and mental fatigue, prevent occupational diseases, cultivate occupational physical fitness, physical fitness and occupational health care capabilities, but also give full play to the role of physical education teaching in career development.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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