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Development of Community Youth Badminton Training Program to Improve Health Related Physical Fitness and Badminton Skills

Cheng Jiechu[1], Wisute Tongdecharoen[2], and Nopporn Tasnaina[3]
Faculty of Sports Science and Technology, Bangkokthonburi University, Thailand
[1]E-mail: 493066769@qq.com, ORCID ID: https://orcid.org/0009-0000-0914-552X
[2]E-mail: wisute.ton@bkkthon.ac.th, ORCID ID: https://orcid.org/0009-0008-5233-7533
[3]E-mail: aipia2489@gmail.com, ORCID ID: https://orcid.org/0009-0001-6086-0657

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Abstract

Background: It is particularly important to improve the overall physical level of adolescents through sports, and while teenagers actively participate in sports activities, they can improve their physical fitness and improve their psychological endurance. Therefore, this research aims to develop community youth badminton training programs to improve health-related physical fitness and badminton skills and study the effects of badminton on adolescents' body elements before and after the experiment.

Methodology: The subjects were 30 badminton students with simple random sampling to examine the pre-test of muscle strength, muscular endurance, cardiorespiratory capacity, flexibility, body composition, and badminton skills. Then the training was carried out according to a community youth badminton training program for 2.50 hours a day, 5 days a week (Monday to Friday), for 8 weeks. The intermediate and post-test data after the 4th and 8th weeks were prepared, the mean and standard deviation were analyzed, one-way ANOVA repeated measures were used to compare the differences, and Bonferroni was used for post-hoc paired comparison. The significance level was set at.05

Results: (1) The mean comparison between the post-test with the pre-test and after week 4 with the post-test of push-ups 60-sec test, sit-ups 60-sec test, sit and reach test, multi-fitness test, muscle mass, and Fat percentage were statistically significant. (2) The mean comparison between the post-test with the pre-test and after week 4 with the pre-test of basic badminton skills were significant differences.

Conclusion: After the fourth training week, the data points to a considerable improvement in several fitness metrics as well as body composition. Notable improvements in fundamental badminton abilities were also noted after the intervention period. Thus, community youth badminton training programs can improve health-related physical fitness.

Keywords: Community Youth Badminton Training Program; Health Related Physical Fitness; Badminton Skills

Introduction

In a study of countries with a high level of badminton in Asia, it was found that the combined badminton population of Jakarta and Seoul is less than half of that of Guangzhou (Wang, 2000). It can be seen that the development situation abroad is not optimistic, and even inferior to China. Founded in London, the "Mermaid Club" is the world's oldest sports club, the club was founded in the early days only badminton and football, the number of badminton clubs accounted for half of the total number of clubs, which shows how impressive the development of badminton is in Europe's largest city. The registration of amateur sports clubs in Germany is very convenient, and the implementation of the council system is the most direct purpose for everyone to participate in sports activities and enjoy the fun brought by sports

In the study of badminton clubs in New York, it was found that badminton clubs in other parts of the United States mainly investigated the development of badminton club activities, mainly including the number of members, the number of participants in the event, the cost and the business model (public welfare or for-profit), and concluded that the number of people participating in badminton activities in cities such as Los Angeles, Washington, Seattle, and Portland is relatively small, and the overall consumption is low. Studies have shown that the poor foundation of public badminton in the United States is due to the poor mass base, low social sponsorship, insufficient advertising, few influential badminton competitions, low funding for community and club activities, and high level of badminton consumption in the United States (Chen, 2007).

With the rapid economic and social development, the material living standards of the masses of the people have been greatly improved, and the masses of the people will have higher and higher demands for spiritual and cultural life. Community sports are not only to improve the physical fitness of community residents but also to enrich the amateur cultural life of community residents and

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improve the quality of life of community residents. At the same time, it can also strengthen the interpersonal relationship between community residents and cultivate the feelings between community residents. Therefore, the development of community sports is of great significance to building a healthy China and maintaining people's physical and mental health.

According to the "2014 National Physical Fitness Monitoring Announcement" issued by the General Administration of Sports of the People's Republic of China, compared with the survey results in 2010, the detection indicators of primary and secondary school students continue to show a stable trend, while the detection rate of poor vision continues to rise, and the detection rate of obesity remains high, occurring in all ages, which greatly affects the healthy development of adolescents' physique. In 2005, China's Ministry of Education issued the "Opinions of the Ministry of Education on Ensuring the Daily Physical Activities of Primary and Secondary School Students", pointing out that physical education is an excellent and practical measure to improve the physical fitness of young people. The following year, China issued the "Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening Youth Sports and Enhancing the Physical Fitness of Adolescents", elevating the health of adolescents to a strategic level. It can be seen that it is particularly important to improve the overall physical level of adolescents through sports, and while teenagers actively participate in sports activities, they can improve their physical fitness and their psychological endurance, and sports as a part of their lives should attract the attention of society, schools and parents (Tian, 2000).

Badminton is a sport with traditional advantages in our country and has a broad base of people. Badminton is a mesh sport, with fitness, entertainment, competition, and other characteristics to attract more and more people to participate in this sport, at the same time it also has the characteristics of changeable, fast, rhythmic, etc., the amount of exercise to participate in badminton is relatively controllable, teenagers can exercise according to their physical condition and time. Regular participation in badminton, on the one hand, can enhance the speed and sensitivity of teenagers' overall physical movements, and at the same time strengthen the body, enhance eyesight, prevent myopia, improve the function of the cardiovascular system, and promote the overall skill level of the body. At the same time, it can promote their good moral perseverance, cultivate their tenacious character, cultivate their spirit of not being afraid of hardship, not being afraid of tiredness, and being able to fight tenaciously when accidents occur, so that the psychological and volitional quality of young people can be improved as a whole (Song, 2011). Due to the increasing popularity of badminton among adolescents, as well as its potential for recreational play, this research aims to develop of community youth badminton training program to improve health-related physical fitness and badminton skills of adolescents, and it is expected that this research will yield positive results in physical fitness development.

Objectives

1. To Develop a community youth badminton training program to improve health-related physical fitness and badminton skills
2. To study the effects of community youth badminton training programs on health-related fitness and badminton skills
3. To Comparison within the experimental group, pre-test, after weeks 4 and 8.

Literature review

Research literature on the definition of physical fitness:

Physical fitness, also known as physical fitness, includes strength quality, speed quality, sensitivity quality, coordination quality, flexibility, cardiovascular aerobic work capacity, etc. (Fu, et al, 2006). There is also a concept called physical fitness, which divides physical fitness into two different areas: sports fitness and healthy physique, sports fitness mainly includes qualities such as reaction speed, explosiveness, sensitivity, and coordination. Health and fitness are broader and include cardiovascular function, muscle strength, endurance, body fat composition, and flexibility. These are two different states, but they cannot be isolated during movement, but rather coordinate and promote each other, working for the human body (Xu, 2007). From the conceptual research, it is found that these

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two perspectives are relatively close, including both genetic aspects and acquired aspects, mainly strength, speed, endurance, sensitivity, coordination, flexibility, and cardiovascular function, which can be reflected by specific indicators in terms of indicators.

The term physical fitness originated in the United States. Broadly speaking, it refers to the ability of the human body to adapt to the external environment. In English literature, it is often used to express the body's ability to adapt to something. For example, Fitness for competition and win; Fitness for life activity. The Germans call it workability, the French call it physical fitness, the Japanese call it physical strength, and scholars in Hong Kong, China, and Taiwan translate it as "physical fitness", and it has been recognized by the sport's academic circles of Chinese-speaking countries and regions. Health-related physical fitness includes the following:

Muscle strength: Muscle strength refers to the force of active contraction of muscles, which is the ability of a person's body or a part of the body's muscles to overcome internal and external resistance when working (contracting or stretching). Muscles can only exert their best strength when they are at the right length. Strength assessment is the examination of the maximum contraction strength of the muscle or muscle group concerned when muscle strength is significantly weakened or functional activity is impaired

Muscular endurance: Muscular endurance refers to the body's ability to perform continuous muscle work for a long time, that is, the ability to fight fatigue, and the improvement of muscular endurance depends not only on the development and maturity of the person but also on the load requirements2. Muscular endurance training can be done by increasing weights, increasing reps, and number of sets

Cardiopulmonary function: Cardiopulmonary function refers to the ability of the human heart to pump blood and the lungs to inhale oxygen, which in turn directly affects the activity of organs and muscles throughout the body. Cardiorespiratory function refers to a person's ability to take up oxygen and convert oxygen into energy. The whole process involves the heart's ability to produce and pump blood, the lungs' ability to uptake and exchange gas, the efficiency of the circulatory system in carrying oxygen to all parts of the body, and the function of muscles to use this oxygen

Body fat content: Body fat content refers to the proportion of body fat weight in the total body weight, also known as body fat percentage, which reflects the amount of body fat content in the human body. The normal range of body fat percentage for adults is 20%-30% for women and 12%-20% for men

Muscle content: Muscle content refers to the amount of muscle tissue in the human body. Other major components of the body include fat, bones, and water, among others. Muscles maintain the body's efficient movement, maintain posture, and support all functions throughout the body

Conclusion: Physical fitness training needs to be developed in many aspects to effectively improve the physical fitness of young people in the community

About badminton training:

Experimental Research on the Effect of Badminton Special Quality Training on Children's Physical Fitness" (Li, 2009)that from 1985 to the fourth in 2000 and the fifth Chinese student physical fitness and health survey in 2005, the results show that the overall physical health of Chinese students is in a good state, and primary and secondary school students are in a continuous 25 However, at the same time, the survey results show that there are still some problems in the physical health of students in China, for example, the physical fitness is going downhill in recent years, and it is getting lower and lower year by year, and if effective measures cannot be taken to slow down the downward trend of students' physical fitness, it will be very unfavourable to China's future development. Children and adolescents are the main force in the future development of the country and bear the heavy responsibility of developing the rise and fall of the country and the nation. Badminton in various sports, has the characteristics of complex and comprehensive, has high requirements for the physical fitness of children and adolescents, not only requires endurance, but also requires speed, flexibility, and other physical qualities, children and adolescents in the process of practicing badminton, need to continue to run fast, jump up and land, hit the ball and other basic techniques to complete, in this process, mobilized the muscles of the whole body to participate in the sport, if it is on the field, more need to be highly concentrated, cannot relax for a moment, And react quickly according to the behaviour of opponents

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and teammates, change their position, etc., to seize the initiative, which is also conducive to winning the game. In childhood, it is of great significance to develop children's sports physical fitness and improve children's physical fitness, and it is becoming an increasingly important research topic.

Research on the Impact of Badminton Training on the Physical Fitness of Middle School Students" (Fu, 2007) that with the rapid development of the economy and society, the living standards of the people have been improving day by day, but the physical condition of young students has continued to decline, and governments at all levels and the whole society have attracted widespread attention to this. As the reserve force of the state and the nation, the physical condition of young students determines the speed of social development in the future. Therefore, enhancing students' physical fitness plays an important role in the sustainable development of the country. The results of the study showed that 16 weeks of badminton training had no significant effect on the height, weight, and body mass index of middle school students. It had a promoting effect on the lung capacity of middle school students but had no significant effect on cardiovascular function. It had a promoting effect on the upper limb strength of middle school students and had a promoting effect on the lower limb explosiveness of boys, but had no significant effect on the enhancement of lower limb explosiveness of female students, but showed a tendency to promote. In short, 16 weeks of badminton training has different effects on different indicators of middle school students' physique and has a certain role in promoting middle school students' physique.

Conceptual Framework

The conceptual framework for this research is as follows:

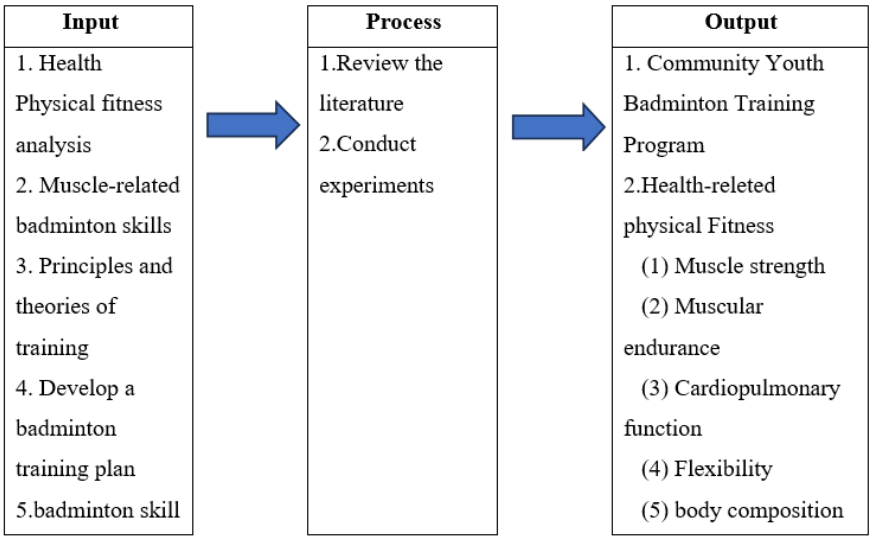

Figure 1 Conceptual Framework

Methodology

Population and Sample

Population: 100 students in the badminton interest class of Qingxi Town Sports Center, Dongguan City, Guangdong Province, China, with a certain badminton technical foundation, aged between 10-13 years old.

Sample: Subjects were 30 persons (15 boys and 15 girls) with simple random sampling by training experience from the 100 students

The inclusion criteria are as follows:

1. Be a badminton student of Qingxi Town Sports Center, Dongguan City, Guangdong Province, China with a badminton technical background between the ages of 10 - 13 years and who has basic badminton skills.

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2. Those who do not have any injuries that hinder training with the approval of the doctor.
3. Those who have passed the Physical Activity Readiness Questionnaire for Everyone, PAR-Q+ 2023 assessment.
4. Be a person who voluntarily agrees to participate in the program and signs the consent document.

The exclusion criteria were as follows:

1. Fewer time to participate in the experiment 80% of the 8-week training period
2. Participants in the test are not completed by the date and time specified by the researcher.
3. Had a sick or injured and unable to participate in further training.
4. Wishing to leave the research project

This research has passed the Research Ethics Review Committee of the Human Research Ethics Committee board, Bangkok Thonburi University. No. 214/2566, Date of issuance 19 November 2022

Research Design:

This experiment designed an 8-week training program, observed the physical fitness indicators of the samples, the changes in the basic technical level of badminton, and obtained sit-ups 60 sec, push-ups 60 sec, sit and reach, Multi-fitness test, Muscle Mass, Fat percentage, clear score, high service score, and short service score data through pre-training, 4th week and 8th-week test, and obtained pairwise control data analysis and conclusions.

Exp Group	O_1	T	O_2	T	O_3

O1 = Pre-test (The physical fitness indicators include muscle strength, muscular endurance, cardiopulmonary function, body flexibility, and body fat ratio, and the basic technical indicators of badminton include: forehand clear, forehand serve clear, backhand serve)

O2 = Post 4-week test (The physical fitness indicators include muscle strength, muscular endurance, cardiopulmonary function, body flexibility, and body fat ratio, and the basic technical indicators of badminton include: forehand clear, forehand serve clear, backhand serve)

O3 = Post 8-week test (The physical fitness indicators include muscle strength, muscular endurance, cardiopulmonary function, body flexibility, and body fat ratio, and the basic technical indicators of badminton include: forehand clear, forehand serve clear, backhand serve)

T = Develop a community youth badminton training program to improve health-related physical fitness and badminton skills

Research instrument: In this study, the research instrument followed this.

1. The specific badminton fitness training program is developed based on theoretical training and a literature review. Mixed physical fitness training and badminton technique, divided into 4 training phases, training duration is 8 weeks, 5 days a week, 2.5 hours each time, and is endorsed by a peer consultant. The content validity of the training program was carried out by 5 experts (coaches and exercise scientists) who implemented observations and recommendations to improve and analyze content validity (International Olympic Committee). IOC is equal to .84.
2. Sit-up 60 sec test
3. Push-up 60-set test
4. Sit and reach test
5. Multi fitness test
6. Clear test
7. High service test
8. Short service test

Results

The researcher collected data and prepared the data. The results of the analysis were then interpreted and presented as an accompanying table to answer the research objectives as follows:

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Table 1 Mean and standard deviation of Health-Related Physical Fitness (N=30)

Variables	Pre-test	After week 4	Post-test
	Mean +S.D.	Mean +S.D.	Mean +S.D.
Sit up 60 sec tests (time)	41.80±2.17	43.40±2.65	47.17±3.20
Push-up 60 sec test (time)	18.67±4.35	20.03±4.44	23.30±4.60
Sit and reach test (cm)	13.33±2.26	14.48±2.26	17.52±2.27
Multi-state test (ml/kg/m)	41.30±1.07	42.60±1.03	44.60±1.36
Multi fitness test (ml/kg/m)	28.38±5.12	28.62±4.99	29.14±4.95
Fat percentage (%)	19.07±3.50	18.57±3.60	18.15±3.59

From table found that the mean and standard deviation classified with pre-test, after weeks 4 and 8 follow as, sit up 60 sec were 41.80±2.17, 43.40±2.65 and 47.17±3.20 times, push up 60-sec test were 18.67±4.35, 20.03±4.44 and 23.30±4.60 times, sit and reach test was 13.33±2.26, 14.48±2.26 and 17.52±2.27 cm, multi-state test were 41.30±1.07, 42.60±1.03 and 44.60±1.36 ml/kg/m, muscle mass was 28.38±5.12, 28.62±4.99 kg and 29.14±4.95 kg and fat percentage were 19.07±3.50, 18.57±3.60 and 18.15±3.59 respectively.

Table 2 The mean comparison of the health-related physical fitness factors with one-way ANOVA repeated measurement between the pre-test, after weeks 4, and post-test

variable	Source of variant	Type III Sum of Squares	df	MS	F	p
Sit up for 60 sec	Week	455.49	2	227.74	326.06	.01*
	Error	40.51	58	0.70		
	total	496.00	60	228.44		
push up 60 sec	Week	340.10	2	170.03	1064.24	.01*
	Error	9.27	58	0.16		
	total	349.37	60	170.19		
Sit and reach the test	Week	282.04	2	141.02	4596.77	.01*
	Error	1.78	58	0.03		
	total	283.82	60	141.05		
Multi-state test	Week	165.85	2	82.92	1734.36	.01*
	Error	2.77	58	0.05		
	total	168.62	60	82.97		
Muscle Mass	Week	9.11	2	4.56	154.91	.01*
	Error	1.71	58	0.03		
	total	10.82	60	4.59		
Fat percentage	Week	12.81	2	6.41	480.06	.01*
	Error	0.77	58	0.01		
	total	13.58	60	6.42		

*P＜ .05

The table found that, by comparison of the health-related physical fitness factors there are at least one pair with significant differences at .05

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Table 3 The Bonferroni post hoc of pairwise comparisons was conducted for the health-related physical fitness factors

Variables	Test	Pre-test	After weeks 4	Post-test
Sit up for 60 sec	Pre-test	XXXXXX	-1.60*	-5.37*
	After weeks 4		XXXXXX	-3.77*
	Post-test			XXXXXX
push up 60 sec	Pre-test	XXXXXX	-1.37*	-4.63*
	After weeks 4		XXXXXX	-3.27*
	post-test			XXXXXX
Sit and reach the test	Pre-test	XXXXXX	-1.15*	-4.20*
	After weeks 4		XXXXXX	-3.04*
	post-test			XXXXXX
Multi-state test	Pre-test	XXXXXX	-0.50*	-0.92*
	After weeks 4		XXXXXX	-0.43*
	post-test			XXXXXX
Muscle Mass (kg)	Pre-test	XXXXXX	-0.25*	-0.76*
	After weeks 4		XXXXXX	-0.52*
	post-test			XXXXXX
Fat percentage	Pre-test	XXXXXX	-1.30*	-3.30*
	After weeks 4		XXXXXX	-2.00*
	post-test			XXXXXX

*p< .05

The table found that all pairwise comparisons of the health-related physical fitness factors were significantly different (*p< .05)

Table 4 Mean and standard deviation of badminton skills (N=30)

Variables	Pre-test	After week 4	post-test
	Mean+ SD.	Mean+ SD.	Mean+ SD.
Clear test (score)	1.77+0.77	3.30+1.02	4.80+1.16
high service test (score)	3.17+0.70	4.80+0.96	6.47+1.17
Short service test (score)	2.73+1.01	4.43+1.07	5.97+1.19

The mean and standard deviation of the scores scored in the badminton basic technical test are Clear test (1.77±0.77, 3.30± 1.02 and 4.80±1.16), High service test (3.17±0.70)., 4.80±0.96 and 6.47 ±1.17), Short service test (2.73± 1.01, 4.43±1.07 and 5.97±1.19)

Table 5 The mean comparison of the badminton skills with one-way ANOVA repeated measurement between the pre-test, after weeks 4 and 8

variable	Source of variant	Type III Sum of Squares	df	MS	F	p
Clear test (score)	Week	138.22	2	69.01	353.87	.01*
	Error	11.31	58	0.20		
	total	49.53	60	69.21		
high service test (score)	Week	163.36	2	81.68	445.05	.01*
	Error	10.64	58	0.18		
	total	174.00	60	81.86		
Short service test (score)	Week	156.96	2	78.48	503.26	.01*
	Error	9.04	58	0.16		
	total	166.00	60	78.64		

*P< .05

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The table found that, in the comparison of the badminton skills there was a least one pair with significant differences at a significance level of .05

Table 6 The Bonferroni post hoc test of pairwise comparisons was conducted for the badminton skills test

Variables	Test	Pre-test	After weeks 4	Post-test
Clear test (score)	Pre-test	XXX	-1.53*	-3.03*
	After weeks 4		XXX	-1.50*
	Post-test			XXX
high service test (score)	Pre-test	XXX	-1.37*	-4.63*
	After weeks 4		XXX	-3.27*
	post-test			XXX
Short service test (score)	Pre-test	XXX	-1.70*	-3.23*
	After weeks 4		XXX	-1.53*
	Post-test			XXX

*p＜ .05

The table shows that all pairwise comparisons were significantly different (*p< .05)

From the above results, before training, the pre-test of muscle strength, muscular endurance, cardiopulmonary function, and physical fitness index content is carried out for the basic examination of badminton. Training is then carried out according to a specific fitness training plan for 2.50 hours a day, 5 days a week (Monday to Friday) for 8 weeks. The intermediate and post-test data after the 4th and 8th weeks were prepared, the mean and standard deviation were analyzed, the one-way ANOVA repeated measures were used to compare the differences, and Bonferroni was used for post-hoc paired comparison. The significance level was set at 0.05. The results showed that (1) The mean and standard deviations predicted after week 4 and week 8 were as follows: 1-minute sit-ups (41.80±2.17, 43.40±2.65 and 47.17±3.20), 1-minute push-ups (18.67±4.35, 20.03±4.44 and 23.30±4.60), sitting forward bend (13.33±2.26cm, 14.48 ± 2.26 cm and 17.52 ± 2.27 cm), the maximum oxygen consumption (41.30 ± 1.07 ml/kg/m, 42) 60 ± 1.03 ml/kg/m and 44.60 ±1.36 ml/kg/m), muscle content (28.38± 5.12 kg, 28.62±4.99 kg and 29.14 ± 4.95 kg), body fat content (19.07 ± 3.50, 18.57 ±3.60 and 1815±3.59); (2) The mean and standard deviation of the scores scored in the badminton basic technical test are: forehand high (1.77±0.77, 3.30± 1.02 and 4.80±1.16), forehand high (3.17±0.70)., 4.80±0.96 and 6.47 ±1.17), backhand serve (2.73± 1.01, 4.43±1.07 and 5.97±1.19); and Mean compared on sit-up 60 sec, push-up 60 sec, sit and reach, multistate test, muscle mass and fat percentage between pre-tests, after weeks 4 and 8, were significant differences all Bonferroni post hoc pairwise.

Discussion

The results showed that the comparative mean values of physical fitness and badminton technique were significantly different in both the pre-and post-test at week 4 (*p< .05).

This is because badminton training technology has developed so far, The multi-ball training method is one of the most important training methods, whether it is a professional player or an amateur master, the multi-ball training method has a very good improvement for individual ability and comprehensive ability. However, according to "A Preliminary Study on the Application of Multi-Ball Practice in College Badminton Teaching" (Lu, et al, 2016), if the amount of multi-ball training is not well controlled in teaching, it will also have a negative impact. Therefore, in the teaching of badminton in colleges and universities, teachers need to be able to grasp the advantages and disadvantages of various multi-ball training methods, be able to use them flexibly, understand the learning status and physical characteristics of students, and adjust the training content promptly, to arrange the training plan in a targeted manner. Primary school students are not in good physical condition due to their young age, so they should arrange more interesting exercises in addition to a large number of multi-ball exercises to maintain their interest. This study combines theory and practice to design a new venue and a new confrontation method, aiming to increase interest and have a different effect on physical fitness.

Experimental Research on the Pace Movement and Flexibility of 8~12-year-old Badminton Trainers in Software Training" (Wang, 2013)that badminton is a cross-net confrontation project, and

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athletes need to do all kinds of emergency stops, sudden starts, and forward, backward, and left and right movements on a small court, so the requirements for flexibility are very high. China's badminton national team was once famous for its tactical style of "fast, accurate, ruthless and lively". If you don't move at a flexible pace, even if you have the best skills in your hands, you will lose the game because you are always in a passive situation. As coach Wang Wen instructor of my country's national badminton team often says: "Badminton is played with feet". The adolescent stage is the period of growing the body, and the step movement exercises and the whole body flexibility exercises are particularly important during this period.

Conclusion

The objectives of this study were to develop a community youth badminton training program to improve health-related physical fitness, to study the effects of community youth badminton training program on health-related fitness and badminton skills, and to compare within groups on health-related fitness and badminton skills between pre-test, after week 4 and 8. Training is then carried out according to a specific fitness training plan for 2.50 hours a day, 5 days a week (Monday to Friday) for 8 weeks. The results showed that a specific badminton training program can improve health-related physical fitness as well as basic badminton skills.

Recommendation

1. the recommendation for this study: when guiding teenagers to carry out badminton activities, it is necessary to strictly control the time and interval time of each activity, reasonably adjust the exercise load, and develop the physical fitness of teenagers to the greatest extent. Some outdoor activities such as mountain climbing, orienteering, and other activities can be appropriately carried out to strengthen the development of oxygen intake and exercise ability; when guiding adolescents to carry out physical activities, it is necessary to consider the particularity of adolescents' growth structure and use more small loads and more exercises to improve the explosiveness of the lower limbs. It can be added to the rope skipping part, which can not only increase the fun of the exercise but also develop the explosive power of the lower limbs.

2. the recommendation for study in the future: when practicing core strength, reduce the exercises with large loads, and adopt exercises with small loads and multiple sets, boys can use planks of medium difficulty to replace sit-up exercises; girls can use simple planks to practice to reduce the difficulty of exercises, standardize movements, and improve the efficiency of exercises; when guiding coordination exercises, targeted guidance can be given to further tap women's potential, and the amount of activity can be appropriately increased for men, and the number of exercises and the difficulty of exercises can be strengthened. When it comes to targeted exercises, you can also use yoga balls, balance cushions, and other assistive equipment to help development.

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