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Characteristics of the stronger development of female advertising athletes aged 15 - 16 Thai Nguyen province sports high school after 1 year of training

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Abstract

In coaching athletes with grasping Wushu, endurance is the determining factor that greatly affects the performance of the game and is the factor determining the athletic performance, the athlete's ability to endure movement. Therefore, training in endurance has a very important role and meaning. The initial research results have shown the current situation of the evolutionary strength of female athletes aged 15 - 16 Thai Nguyen province sports high school after 1 year of practice.

Keywords: Enduring strength, Female athlete admiring aged 15-16, Thai Nguyen province sports high school, After 1 year of practice

1. Introduction

Prior to the high demand of the wushu athlete's training, the content of grasping requirements that next to specialized physical training, special attention to the strength of endurance. The strength of the endurance is the specific physical quality of the decision, which is the maximum of the working capacity of the agencies and other physical elements, ensuring the efficiency of the use of strategy during the course of the competition. In addition, the strength of endurance still helps athletes firmly enter the match, confident enough to perform the technique, and wisely in handling situations that appear in the competition. In the exercise and competition of the content in wushu, the quality of endurance is the specialty of specialized physical forces, so the strong endurance will create favorable conditions to absorb and complete - strategy one quickly and effectively.

However, the practice of promoting Female athlete admiring aged 15-16, Thai Nguyen province sports high school now shows that the coaches have not yet developed the contents of training, testing - endurance assessment for a fully scientific basis. Therefore, monitoring and determining the characteristics of specialized tests after a period of training for application in the examination - assessment is necessary. The contents of the article focused on the evaluation of Female athlete admiring aged 15-16, Thai Nguyen province sports high school after 1 year of training, aimed at building and perfecting the strength of endurance for athletes in the training program.

2. Study method

Research methods used include: analysis and synthesis of documents; methods of inspection; methods of inspection; statistical mathematical method.

3. Research results and Discussion

3.1. Determine the tests to assess the endurance strength of Female athlete admiring aged 15-16, Thai Nguyen province sports high school

Through consult with relevant professional documents related to the research, through reference and study of the situation of the training, testing - assessing endurance strength in martial arts, based on the results of expert interviews, which have selected 11 tests in 2 groups of factors in the evaluation of endurance strength for Female athlete admiring aged 15-16, Thai Nguyen province sports high school, including:

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3.1.1 Group of professional fitness factors (05 tests)

1. Tug the maximum weight to shoulder height (kg)
2. Hanging arm cuffs on arm perpendicular forearm beams (s)
3. Lift 30kg weight, sit down and stand up for 30s (times)
4. Moving across the carpet 10 × 10m 20 times (s)
5. Moving ahead and back on the carpet 10 x 10m 20 times (s)

3.1.2 Technical factors group (06 tests)

6. Move the punch straight to the target 30 seconds (times)
7. The left hand hook the right hand punches straight at the target for 30 seconds (times)
8. Roundhouse kick left in place for 30 seconds (times)
9. Roundhouse kick right in place for 30 seconds (times)
10. Roundhouse kick with two legs moves kick left and right 30 seconds (times)
11. Cross the front leg to the target for 30 seconds (times)

The tests above are most likely to be selected, and they are located at a critical level in the importance of testing, evaluation of endurance strength for Female athlete admiring aged 15-16, Thai Nguyen province sports high school, with 85.00% or more of the respondents choosing it, which is important very important including 75, 00% selection options). On the other hand, this 11 test was studied to test the number of the competition of female athletes (r calculate > r table with $P < 0.05$); reliability coefficient between 2 tests by the repeat test method (with $r > 0.80$).

3.2 Results of monitoring and evaluation of endurance strength for strength of female athletes aged 15 - 16 Thai Nguyen province sports high school after 1 year of practice

In order to figure out endurance strength for strength of female athletes aged 15 - 16 Thai Nguyen province sports high school after 1 year of practice, the study used 11 tests, and conducted the assessment of strength for female athletes at early times, after six months and 12 months of training. The test contents include 11 pedagogical tests as shown above. In addition, the study used the automatic sm102 system to

measure attacks pulse.

This is a system that records the impulse of the attack on a softly inflated gauge. The test subjects are female athletes aged 15 - 16 Thai Nguyen province sports high school. The SM102 system is applied to some of the technical tests: 1) Roundhouse kick left in place; 2) Roundhouse kick right in place; 3) Move and punch straight to the destination. In which, each technical test is implemented 20 times in a row, the result of the impulse measurement is calculated as the average value of 20 (to evaluate the strength of endurance strength of the athletes). The test results at the initial time will be compared to the results of the (after 6 months, after 12 months) to assess the level of strength of endurance development of female athletes aged 15 - 16 Thai Nguyen province sports high school after 1 year of practice. The result as shown in table 3. 1 to 3. 4 shows:

The results of pedagogical tests on 11 pedagogical tests and strength indicators of the three techniques of the initial test period and after 6 months, as well as after 6 months to after 12 months did not have a significant difference (t calculate regular < t table at probability threshold $P > 0.05$); beside, the growth rate of the tests also did not have a clear growth, the average after 6 months increased from 2,090% to 2,717%.

After 12 months, the test results on age 15 and 16 year olds compared to the initial inspection have been marked by a marked difference in (t calculate regular > t ableat in the probability threshold $P < 0.05$). The growth of test results after 12 months of training has had a marked increase in the initial period. In other words, the test results of endurance tests, as well as endurance index of the athletes on age 15 and 16 year olds have a significant growth in 12 months, the average growth rate reached 4. 868% to 4. 868%.

Thus, the results mentioned above show that the performance of the results of pedagogical tests and mechanical biology on the tests of female athletes aged 15 - 16 Thai Nguyen province sports high school has no differences in test results at 6 months apart. The difference in endurance tests is evident only after the completion of the 12 month monitoring process compared to the initial inspection, and the growth rate has been relatively stable during year training.

Table 1: Characteristics, movement of endurance strength of female athletes aged 15 - 16 Thai Nguyen province sports high school (n = 11)

NO	Test	Test results ($\bar{x} \pm \sigma$)			Difference			Growth rate			P
		At first (1)	After 6 months (2)	After 12 months (3)	t _{1,2}	t _{2,3}	t _{1,3}	W _{1,2}	W _{2,3}	W _{1,3}	
	Tug the maximum weight to shoulder height (kg)	21.11±0.87	21.54±0.89	21.98±0.91	1.158	1.135	2.292	2.039	1.998	4.037	<0.05
	Hanging arm cuffs on right-arm and forearm beams (s)	28.38±1.17	28.94±1.19	29.50±1.21	1.116	1.094	2.210	1.956	1.918	3.873	<0.05
	Lift 30kg weight, sit down and stand up for 30s (times)	22.76±0.92	23.21±0.94	23.65±0.95	1.132	1.111	2.243	1.946	1.909	3.854	<0.05
	Moving across the carpet 10 x 10m 20 times (s)	113.12±4.67	110.93±4.58	108.73±4.49	1.112	1.135	2.246	1.959	1.998	3.957	<0.05
	Moving back and forth on the carpet 10 x10m 20 times (s)	110.33±4.67	108.15±4.57	105.97±4.48	1.106	1.128	2.234	1.995	2.035	4.030	<0.05
	Move the punch straight to the target 30 seconds (times)	68.30±2.86	69.66±2.92	71.02±2.98	1.103	1.081	2.184	1.970	1.932	3.902	<0.05
	The left hand hook the right hand punches straight at the target for 30 seconds (times)	70.04±3.42	71.79±3.50	73.54±3.59	1.184	1.156	2.339	2.464	2.405	4.869	<0.05
	Roundhouse kick left in place for 30 seconds (times)	48.91±2.11	49.96±2.15	51.02±2.20	1.163	1.139	2.301	2.138	2.093	4.231	<0.05
	Roundhouse kick right in place for 30 seconds (times)	46.92±2.26	48.05±2.31	49.19±2.37	1.161	1.134	2.294	2.381	2.326	4.707	<0.05
	Roundhouse kick with two legs moves kick left and right 30 seconds (times)	47.34±2.16	48.46±2.21	49.58±2.26	1.203	1.175	2.377	2.338	2.285	4.623	<0.05
	Cross the front leg to the target for 30 seconds (times)	25.12±1.05	25.65±1.07	26.19±1.09	1.183	1.159	2.342	2.099	2.056	4.155	<0.05
	\bar{W}				t ₀₅ = 2.086			2.119	2.090	4.208	

Table 2: Feature, movement of Durnamic indicators to assess endurance strength of female athletes aged 15 - 16 Thai Nguyen province sports high school (n = 11)

NO	Technical criteria	Test results ($\bar{x} \pm \sigma$)			Difference			Growth rate			P
		At first (1)	After 6 months (2)	After 12 months (3)	t _{1,2}	t _{2,3}	t _{1,3}	W _{1,2}	W _{2,3}	W _{1,3}	
I.	Roundhouse kick left in place for 20 times										
	Average reflection time T (ms)	389.34±17.52	380.52±17.85	371.70±18.19	1.169	1.148	2.316	2.291	2.345	4.635	<0.05
	Time to using average force t (ms)	18.64±0.81	18.25±0.78	17.87±0.76	1.138	1.179	2.315	2.097	2.142	4.238	<0.05
	Peak of force average (F)	201.12±11.09	206.51±10.75	211.90±10.40	1.157	1.195	2.351	2.645	2.576	5.220	<0.05
	Impulse average (P = Fxt)	3748.88±195.50	3852.35±194.27	3955.81±193.04	1.245	1.253	2.498	2.722	2.650	5.372	<0.05
	Endurance index (SQ = FxP / T / 100)	19.37±1.03	20.91±1.00	20.42±.96	3.570	1.169	2.480	7.655	2.361	5.296	<0.05
II.	Roundhouse kick right in place for 20 times										
	Average reflection time T (ms)	383.62±17.26	375.43±17.62	367.24±17.97	1.101	1.079	2.180	2.158	2.206	4.363	<0.05
	Time to using average force t (ms)	18.75±0.82	18.36±0.79	17.98±0.76	1.132	1.173	2.303	2.087	2.131	4.217	<0.05
	Peak of force average (F)	203.89±10.23	208.74±10.41	213.60±10.60	1.103	1.083	2.186	2.352	2.298	4.649	<0.05
	Impulse average (P = Fxt)	3822.94±199.37	3916.22±197.51	4009.50±195.66	1.102	1.113	2.215	2.411	2.354	4.764	<0.05
	Endurance index (SQ = FxP / T / 100)	20.32±1.32	20.91±1.17	21.51±1.01	1.120	1.279	2.373	2.893	2.811	5.703	<0.05
III.	Move the punch straight to the target 20 times										
	Average reflection time T (ms)	374.43±16.85	367.00±15.85	359.57±14.85	1.066	1.135	2.195	2.005	2.046	4.050	<0.05
	Time to using average force t (ms)	19.78±0.86	19.39±0.85	19.00±0.84	1.065	1.075	2.139	1.984	2.025	4.009	<0.05
	Peak of force average (F)	197.53±10.27	202.33±10.08	207.13±9.88	1.106	1.128	2.234	2.401	2.345	4.745	<0.05
	Impulse average (P = Fxt)	3907.14±197.31	4000.52±194.04	4093.90±190.78	1.119	1.138	2.257	2.362	2.307	4.668	<0.05
	Endurance index (SQ = FxP / T / 100)	20.61±1.34	21.18±1.15	21.74±0.97	1.056	1.243	2.261	2.698	2.627	5.324	<0.05
	\bar{W}				t ₀₅ = 2.086			2.717	2.348	4.750	

Table 3: Characteristics, movement of endurance strength of female athletes aged 15 - 16 Thai Nguyen province sports high school (n = 9)

NO	Test	Test results ($\bar{x} \pm \sigma$)			Difference			Growth rate			P
		At first (1)	After 6 months (2)	After 12 months (3)	t _{1,2}	t _{2,3}	t _{1,3}	W _{1,2}	W _{2,3}	W _{1,3}	
1.	Tug the maximum weight to shoulder height (kg)	22.06±0.88	22.59±0.91	23.11±0.93	1.247	1.218	2.464	2.357	2.303	4.659	<0.05
2.	Hanging arm cuffs on arm perpendicular forearm beams (s)	29.64±1.22	30.32±1.25	30.99±1.28	1.155	1.130	2.284	2.249	2.200	4.449	<0.05
3.	Lift 30kg weight, sit down and stand up for 30s (times)	23.79±0.96	24.30±0.99	24.82±1.01	1.129	1.105	2.233	2.156	2.111	4.267	<0.05
4.	Moving across the carpet 10 x 10m 20 times (s)	108.36±4.54	106.04±4.44	103.72±4.35	1.095	1.119	2.214	2.163	2.211	4.374	<0.05
5.	Moving ahead and back on the carpet 10 x 10m 20 times (s)	105.75±4.36	103.55±4.27	101.35±4.18	1.081	1.105	2.185	2.102	2.147	4.248	<0.05
6.	Move the punch straight to the target 30 seconds (times)	71.47±3.29	73.23±3.38	74.99±3.46	1.118	1.092	2.209	2.430	2.372	4.802	<0.05
7.	The left hand hook the right hand punches straight at the target for 30 seconds (times)	74.04±3.25	75.79±3.33	77.54±3.40	1.130	1.104	2.233	2.337	2.284	4.621	<0.05
8.	Roundhouse kick left in place for 30 seconds (times)	51.52±2.17	52.75±2.22	53.98±2.27	1.187	1.160	2.346	2.357	2.303	4.659	<0.05
9.	Roundhouse kick right in place for 30 seconds (times)	49.63±2.22	50.84±2.28	52.04±2.33	1.136	1.110	2.246	2.401	2.345	4.745	<0.05
10.	Roundhouse kick with two legs moves kick left and right 30 seconds (times)	49.73±2.22	50.94±2.27	52.16±2.32	1.148	1.120	2.267	2.411	2.354	4.764	<0.05
11.	Cross the front leg to the target for 30 seconds (times)	26.38±1.15	27.02±1.18	27.66±1.21	1.168	1.140	2.307	2.406	2.349	4.754	<0.05
	\bar{W}				t ₀₅ = 2.120			2.296	2.263	4.559	

Table 4: Feature, movement of Durnamic indicators to assess endurance strength of female athletes aged 15 - 16 Thai Nguyen province sports high school (N = 9)

NO	Technical criteria	Test results ($\bar{x} \pm \sigma$)			Difference			Growth rate			P
		At first (1)	After 6 months (2)	After 12 months (3)	t _{1,2}	t _{2,3}	t _{1,3}	W _{1,2}	W _{2,3}	W _{1,3}	
I.	Roundhouse kick left in place for 20 times										
	Average reflection time T (ms)	370.37±17.02	361.33±17.19	352.30±17.37	1.121	1.109	2.230	2.470	2.533	5.002	<0.05
	Time to using average force t (ms)	17.82±0.78	17.41±0.76	17.01±0.74	1.118	1.151	2.267	2.301	2.355	4.656	<0.05
	Peak of force average (F)	221.61±10.61	227.33±10.65	233.05±10.70	1.141	1.136	2.277	2.547	2.484	5.030	<0.05
	Impulse average (P = Fxt)	3949.09±192.62	4056.11±187.65	4163.13±182.68	1.194	1.226	2.419	2.674	2.604	5.277	<0.05
	Endurance index (SQ = FxP / T / 100)	23.63±1.10	24.25±1.11	24.87±1.11	1.191	1.184	2.375	2.586	2.521	5.106	<0.05
II.	Roundhouse kick right in place for 20 times										
	Average reflection time T (ms)	364.27±16.81	355.73±16.27	347.19±15.73	1.095	1.133	2.226	2.373	2.430	4.803	<0.05
	Time to using average force t (ms)	17.84±0.77	17.44±0.76	17.05±0.75	1.094	1.106	2.200	2.240	2.291	4.530	<0.05
	Peak of force average (F)	226.94±10.18	232.45±10.58	237.97±10.97	1.127	1.086	2.211	2.401	2.345	4.745	<0.05
	Impulse average (P = Fxt)	4048.61±187.65	4149.42±186.91	4250.23±186.16	1.142	1.146	2.288	2.459	2.400	4.859	<0.05
	Endurance index (SQ = FxP / T / 100)	25.22±1.31	25.97±1.23	26.71±1.15	1.240	1.322	2.555	2.902	2.820	5.722	<0.05
III.	Move the punch straight to the target 20 times										
	Average reflection time T (ms)	354.74±12.50	347.50±13.59	340.27±14.68	1.176	1.085	2.252	2.061	2.104	4.165	<0.05
	Time to using average force t (ms)	18.42±0.76	18.02±0.76	17.61±0.77	1.127	1.123	2.250	2.219	2.270	4.489	<0.05

	Peak of force average (F)	223.67±10.02	228.99±10.13	234.32±10.24	1.121	1.109	2.229	2.352	2.298	4.649	<0.05
	Impulse average (P = Fxt)	4120.00±183.34	4220.53±190.19	4321.06±197.04	1.142	1.101	2.241	2.411	2.354	4.764	<0.05
	Endurance index (SQ = FxP / T / 100)	25.98±1.34	26.67±1.26	27.37±1.19	1.136	1.206	2.337	2.649	2.581	5.230	<0.05
	\bar{W}				t ₀₅ = 2.120			2.443	2.426	4.868	

4. Conclude

1. The research results have selected 11 professional tests (including 05 fitness tests and 06 technical tests) along with 05 dynamics of female athletes aged 15 - 16 Thai Nguyen province sports high school. By testing the scientific basis, 11 test and 05 criteria of 03 specific techniques have ensured the information, reliability and statistical information required (with $P < 0.05$).
2. The results of examination of pedagogical results on 11 tests and 05 criteria for bio-mechanical testing on 03 typical techniques of female athletes aged 15 - 16 Thai Nguyen province sports high school after one year, as well as significant growth in the results after 1 year of training compared to earlier training. Therefore, it is possible to confirm effectiveness in the assessment of female athletes aged 15 - 16 Thai Nguyen province sports high school through the test and testing methods that the research process has identified.

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