

Analysis of the Physical Condition of Long-Term Wushu Sanda Athletes PON Athletes of North Sumatra Province in Facing the North Sumatra / Aceh National Sports Week XXI Year 2024



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ABSTRACT: The purpose behind this study is to determine the state and readiness of the long-term physical condition of wushu sanda athletes from PON North Sumatra Province in facing the XXI North Sumatra National Sports Week in 2024. This type of research is quantitative descriptive with information or data collection strategies using survey and test methods. The subjects of the study were all long-term wushu sanda athletes from PON training in North Sumatra Province from 8 athletes consisting of 5 men and 3 women who will be prepared to take part in the XXI North Sumatra / Aceh National Sports Week in 2024. The technique of using samples in this study is total sampling. The instruments in this review use tests and measurements. Based on the results of the study, information was obtained from the state of the physical condition of long-term wushu athletes in PON North Sumatra Province, both men and women, on average from the overall 64% are still in physical condition with sufficient categories. thus the need to increase the intensity of training programs to support the improvement of athletes' physical condition, in this case the coach must work extra and athletes must also be active and train and follow all the programs that have been prepared and given by the coach in preparation for PON XXI SUMUT / Aceh 2024.

KEYWORDS: Analysis, Physical Condition, Wushu Sanda, Pelatda PON.

I. INTRODUCTION

Wushu is a martial arts game that started in China and began to be made in Indonesia. Wushu in the true sense comes from the words Wu which means knight or war, and Shu which means procedure or technique (Hardyanti, 2022) Wushu sports in Indonesia are not as popular as other martial sports, even so Indonesia has currently established an institution that oversees wushu sports, namely the Indonesian Wushu Executive Board (PB) while at the international level called the International Wushu Federatoin (IWUF), IWUF was established to promote sports in the world. Wushu sports achievements in Indonesia have now reached international well.

The wushu sport which is officially shaded by IWUF has three numbers that are competed, namely 1) Taolu, Demonstration of moves. 2) Tuida, a fight reenactment. 3) sanhou/sanda i.e. free match (Noviani & Badri, 2019). Based on this information, wushu sports have two groups, namely art and fighting. In coaching athletes at the amateur level, physical condition must be really considered to improve athlete performance. In directing athletes at the local, provincial, national and international levels, physical condition factors are really considered to further develop the athletes' performances so that they can reach the peak of achievement.

Physical condition training is a part used to achieve achievements, while to achieve the desired achievements athletes must make relatively long preparations (Mylsidayu, 2017). In line with this opinion (Harsono, 2016) states that the physical condition of athletes plays a very important role in their training program. Physical condition is a basic ability possessed by an athlete, physical condition also has important aspects possessed by an athlete in increasing and developing the prestige of an athlete. In addition to focusing on physical condition status, there needs to be supporting aspects to support athletes, namely aspects of physical training, technique, tactics, and mental training. The role of physical condition training is very important to support the achievements of athletes, especially fight athletes (Ryzki et al., 2021). In physical condition training there are 10 components including: 1) *Endurance*. 2) *Muscular Power*. 3) *Speed*. 4) *Flexibility*. 5) *Agility*. 6) *Coordination*. 7) *Balance*. 8) *Accuracy*. 9) *Reaction*. 10) *Strenght* (Hanief, 2019).

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Before the athlete performs the competition, the athlete's initial preparation must be fostered to improve his physical condition. This is useful to stay ready to face the pressure caused by the match both in terms of mental and physical pressure. To achieve maximum athlete readiness before competing, the athlete's condition must achieve good fitness to deal with the stress that will be faced during the match. Therefore, having an optimal or good physical condition during every training session and match physical condition has an important role in every match in addition to mental, technical and tactical.

Wushu sports (Cabor) are very popular in North Sumatra, shortly at the prestigious level event in Indonesia, namely PON Papua XX in 2020, the North Sumatra Wushu Sports (Cabor) won 5 (five) gold medals in the XX Papua PON competition. Not only staying in gold, Cabor Wushu also managed to bring 5 (five) silver medals and 5 (five) bronze medals. And this achievement is dominated by Sanda wushu athletes.

Efforts to achieve achievements are of course many factors which include internal factors and external factors. Performance factors that come from internal certainly cannot be separated from the state of the athlete himself. While external factors come from outside which can be in the form of trainers, management, facilities and infrastructure.

In this study, researchers are interested in seeing how ready the physical condition of Wushu Sanda athletes is the Long-Term PON of North Sumatra PON in 2024 in preparing for PON XXI North Sumatra and Aceh in 2024. Considering that Wushu sports contributed a lot of medals, dominated by Wushu Sanda athletes for North Sumatra in the previous event, namely PON Papua XX in 2020. In addition, the readiness of physical condition is the most important factor to support the achievements of athletes. In line with previous research conducted by (Ambara, 2017) that the influence of physical condition can increase athlete pretation, judging from the results of his research from the homogeneity test of $0.000 > 0.05$ there is a significant relationship between ranking results and physical condition at that time.

II. METHOD

In accordance with the questions that have been described, this type of research is descriptive using a quantitative approach. The methods used in this study are surveys and measurement tests. Descriptive research is research that describes what happens in the field about a condition or symptom (Hardiansyah, 2018). A quantitative approach is an approach that relates to using numbers that have been analyzed that use statistical techniques to describe the results (Jariono et al., 2020) The survey method was chosen by researchers because the survey method is a collection of data carried out at this time, to obtain information in the form of characteristics, opinions, and test several hypotheses (Zawawi & Burstiando, 2020).

This research was carried out at Gor TMultipurpose North Sumatra, precisely on Jln. William Iskandar Pancing in January 2023. Data collection techniques in this study used tests. The test was used by researchers to measure the physical condition of athletes in preparing for PON XXI North Sumatra and Aceh in 2024 for the wushu sanda sport. The population in this study was all North Sumatra wushu sanda training athletes totaling 8 athletes, consisting of 5 male athletes and 3 female athletes. The sample of this study involved overall (total sampling) all North Sumatran wushu sanda athletes.

The instruments used in the research are as follows:

1. Flexibility Test, as for the physical condition measurement test method for the flex component is the *v sit and reach* test and *shoulder & wrist*.
2. The abdominal muscle endurance test, while the measurement of the physical condition test for the abdominal muscle endurance component is a *1-minute* sit-up test.
3. Arm muscle endurance test, while the measurement of physical condition test for arm muscle endurance component is a *1-minute* push-up test.
4. Arm muscle explosive power test, while the measurement of physical condition test for the explosive power component of arm muscles is *chest throw medicine ball*.
5. The test of the explosive power of the leg muscles, while the measurement of the physical condition test for the explosive power component of the leg muscles is the *tripple hope jump*.
6. Speed Test, as for the measurement of the physical condition test for the speed component is the *20-meter* sprint test.
7. Core test, while the measurement of physical condition tests for *core test* components is *12 Level Core Stability*.
8. Aerobic endurance test (VO2 Max), while the measurement of physical condition test for aerobic endurance component (VO2 Max) is *bleep* test.

To draw conclusions from the data that has been obtained and collected, then changed in the form of percentages to analyze the descriptive data. The data is then processed using the following formula:

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$$P = \frac{F}{N} \times 100\%$$

Information:

P = Percentage searched

F = Frequency

N = Number of respondents

III. RESULT AND DISCUSSION

A. Result

The results of the research that have been conducted by this researcher are a description of the physical condition profile of wushu sanda athletes who are long-term PON North Sumatra 2024 in preparing for PON XXI North Sumatra and Aceh in 2024. The data that has been collected in this study are the results of tests and measurements in the form of spasticity tests, abdominal muscle endurance, arm muscle endurance, leg muscle endurance, speed, *core tests*, aerobic endurance (VO2 Max). The following are the test results and measurements of the 2024 North Sumatra PON long-term wushu sanda athletes presented in table form:

Table 1. Data on Flex Test Results (V Sit and Reach) Wushu Sanda Athletes PON Long-Term Training North Sumatra 2024

Son				Daughter			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
<27	1	Excellent	20 %	<27	2	Excellent	66,66 %
26 - 17	3	Good	60 %	26 - 17	0	Good	0 %
16 - 6	1	Enough	20 %	16 - 6	1	Enough	33,33 %
5 - 0	0	Less	0 %	5 - 0	0	Less	0 %
< -1	0	Very Lacking	0 %	< -1	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the data of the *v sit and reach* flex test for male athletes in the very good category was 1 athlete (20%), the good category was 3 athletes (60%), the sufficient category was 1 athlete (20%), the category was less than 0 athletes (0%) while in the category of less than 0 athletes (0%). In this condition, *the most male athletes' v sit and reach* flex test was 3 athletes in the good category.

The condition of the *v sit and reach flex test data* for female athletes in the very good category was 2 athletes (66.66%), the good category was 0 athletes (0%), the sufficient category was 1 athlete (33.33%), the category was less than 0 athletes (0%) while in the category of less than 0 athletes (0%). In this condition, *the most frequency of the female athletes' v sit and reach* flex test was 2 athletes in the excellent category.

Table 2. Shoulder & Wrist Test Results Data of Wushu Sanda Athletes PON Long-Term Trainers North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
<12.75	5	Excellent	100 %	<12	3	Excellent	100 %
11.75 - 12.50	0	Good	0%	11 - 11.75	0	Good	0 %
8.50 - 11.50	0	Enough	0%	7.75 - 10.75	1	Enough	0 %
6.25 - 8.25	0	Less	0 %	5.75 - 7.50	0	Less	0 %
< 6	0	Very Lacking	0 %	< 5.50	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the shoulder & wrist flex test data of male athletes in the very good category was 5 athletes (100%), the good category was 0 athletes (0%), the sufficient category was 0 athletes (0%), the category was less than 0 athletes (0%),

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while in the category of less than 0 athletes (0%). In this condition, *the most male athletes' shoulder & wrist flex tests* were 5 athletes in the excellent category.

The condition of the *v sit and reach flex test data* for female athletes in the very good category was 3 athletes (100%), the good category was 0 athletes (0%), the sufficient category was 0 athletes (0%), the category was less than 0 athletes (0%) while in the category of less than 0 athletes (0%). In this condition, *the most frequency of the female athletes' v sit and reach flex test* was 3 athletes in the excellent category.

Table 3. Data on Abdominal Muscle Endurance Test Results (1-Minute Crunches) Wushu Sanda Athletes Long-Term PON Trainers North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
>120	0	Excellent	0 %	>120	0	Excellent	0 %
119 - 108	0	Good	0 %	119 - 108	0	Good	0 %
107 - 95	0	Enough	0 %	107 - 95	0	Enough	0 %
94 - 50	2	Less	40 %	94 - 50	1	Less	33,33 %
<49	3	Very Lacking	60 %	<49	2	Very Lacking	66,66 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the data of the 1-minute sit-up abdominal muscle endurance test of male athletes in the very good category was 0 athletes (0%), the good category was 0 athletes (0%), the sufficient category was 0 athletes (0%), the category was less than 2 athletes (40%) while in the category of less than 3 athletes (60%). In this condition, *the male athletes' 1-minute sit-up abdominal muscle endurance test* was at most 3 athletes in the less once category.

The condition of the abdominal muscle endurance test data *for 1 minute sit-up* female athletes in the very good category was 0 athletes (0%), the good category was 0 athletes (0%), the sufficient category was 0 athletes (0%), the category was less than 1 athlete (33.33%) while in the category of less than 2 athletes (66.66%). In this condition, the 1-minute abdominal muscle endurance test *of sit-ups* of female athletes of the most frequency was 2 athletes in the less once category.

Table 4. Arm Muscle Endurance Test Results Data (1-Minute Push-ups) Wushu Sanda Athletes Long-Term PON Training North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
>60	1	Excellent	20 %	>60	0	Excellent	0 %
59 - 54	0	Good	0 %	59 - 54	0	Good	0 %
53 - 47	1	Enough	20 %	53 - 47	0	Enough	0 %
46 - 40	0	Less	0 %	46 - 40	1	Less	33,33 %
<39	3	Very Lacking	60 %	<39	2	Very Lacking	66,66 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the data of the 1-minute push-up arm endurance test for male athletes in the very good category was 1 athlete (20%), the good category was 0 athletes (0%), the sufficient category was 1 athlete (20%), the category was less than 0 athletes (0%) while in the category of less than 3 athletes (60%). In this condition, *the male athletes' 1-minute push-up arm muscle endurance test* was at most 3 athletes in the less once category.

The condition of the push-up arm muscle endurance test data *for 1 minute* female athletes in the very good category was 0 athletes (0%), the good category was 0 athletes (0%), the sufficient category was 0 athletes (0%), the category was less than 1 athlete (33.33%) while in the category of less than 2 athletes (66.66%). In this condition, *the female athletes' 1-minute push-up arm muscle endurance test* of the most frequency was 2 athletes in the less once category.

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Table 5. Chest Throw Medicine Ball Test Results Data for Wushu Sanda Athletes Long-Term PON Trainers North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
<6	0	Excellent	0 %	<4	0	Excellent	0 %
5 - 4	2	Good	40 %	3,9 - 3	0	Good	0 %
3,9 - 2	0	Enough	0 %	2,9 - 2	3	Enough	100 %
2,9 - 1	3	Less	60 %	1,9 - 1	0	Less	0 %
<0,9 - (-1)	0	Very Lacking	0 %	<0,9 - (-1)	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the data on the explosive power test of the arm *chest throw medicine ball* male athletes in the very good category as many as 0 athletes (0%), good category 2 athletes (40%), enough category 0 athletes (0%), less category 3 athletes (60%) while in the category less than 0 athletes (0%). In this condition, the most male athletes' *chest throw medicine ball* arm muscle explosive power tests were 3 athletes in the less category.

The condition of the arm muscle explosive test data *chest throw medicine ball* female athletes in the very good category as many as 0 athletes (0%), good category 0 athletes (0%), enough category 3 athletes (100%), less category 0 athletes (0%) while in the category less than 0 athletes (0%). In this condition, the most *frequency of the female athletes' chest throw medicine ball* arm muscle explosive power test was 3 athletes in the sufficient category.

Table 6. Tripple Hope Jump Test Results Data for Wushu Sanda Athletes Long-Term PON Trainers North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
>9.34	0	Excellent	0 %	>9.34	2	Excellent	66,66 %
9.34 - 8.18	0	Good	0 %	9.34 - 8.18	0	Good	0 %
8.17 - 7.60	4	Enough	80 %	8.17 - 7.60	1	Enough	33,33 %
7.59 - 5.87	1	Less	20 %	7.59 - 5.87	0	Less	0 %
<5.87	0	Very Lacking	0 %	<5.87	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the data on the explosive power test of the *trippole leg muscles of* male athletes in the very good category were 0 athletes (0%), the good category was 2 athletes (40%), the sufficient category was 0 athletes (0%), the category was less than 3 athletes (60%) while in the category of less than 0 athletes (0%). In this condition, *the most male athletes' trippole hope jump* leg muscle explosive power test was 3 athletes in the less category.

The condition of the trippole leg muscle explosive test data *for* female athletes in the very good category is 0 athletes (0%), the good category is 0 athletes (0%), the sufficient category is 3 athletes (100%), the category is less than 0 athletes (0%) while in the category of less than 0 athletes (0%). In this condition, *the most frequency of female athletes' trippole hope jump* leg muscle explosive power tests were 3 athletes in the sufficient category.

Table 7. Speed Test Results Data (20 Meter Sprint) Wushu Sanda Athletes PON Long-Term Training North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
<3	2	Excellent	40 %	<3	0	Excellent	0 %
3,1 – 3,3	1	Good	20 %	3,1 – 3,3	1	Good	33,33 %
3,4 – 3,6	2	Enough	40 %	3,4 – 3,6	1	Enough	33,33 %
3,7 – 3,8	0	Less	0 %	3,7 – 3,8	1	Less	33,33 %
>3,9	0	Very Lacking	0 %	>3,9	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

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Based on the table above, the 20-meter sprint speed test data of male athletes in the very good category was 2 athletes (40%), the good category was 1 athlete (20%), the sufficient category was 2 athletes (40%), the category was less than 0 athletes (0%) while in the category of less than 0 athletes (0%). Under these conditions, *the most men's athletes' 20-meter sprint speed tests* were 2 athletes in the excellent category.

The condition of the 20-meter sprint speed test data for female athletes in the very good category was 0 athletes (0%), the good category was 1 athlete (33.33%), the sufficient category was 1 athlete (33.33%), the category was less than 1 athlete (33.33%) while in the category of less than 0 athletes (0%). In this condition, *the women's 20-meter sprint speed test* is of equal frequency, which is a sufficient category.

Table 8. Data Hasil Core Test (12 Level Core Stability) Atlet Wushu sanda Pelatda Jangka Panjang PON North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
12	3	Excellent	60 %	12	2	Excellent	66,66 %
11 - 9	0	Good	0 %	11 - 9	0	Good	0 %
8-6	1	Enough	20 %	8-6	0	Enough	0 %
5-3	0	Less	0 %	5-3	1	Less	33,33 %
<2	1	Very Lacking	20 %	<2	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, the core test data of 12 Level Core Stability male athletes in the very good category was 3 athletes (60%), the good category was 0 athletes (0%), the sufficient category was 1 athlete (20%), the category was less than 0 athletes (0%) while in the category of less than 1 athlete (20%). In this condition, *the core test of 12 Level Core Stability* of the most male athletes is 3 athletes in the excellent category.

The condition of *the core test* data is 12 Level Core Stability of female athletes in the very good category as many as 2 athletes (66.66%), good category 0 athletes (0%), sufficient category 0 athletes (0%), less category 1 athlete (33.33%) while in the category of less than 0 athletes (0%). In this condition, *the core test of 12 Level Core Stability* female athletes with the most frequency is 2 athletes in the very good category.

Table 9. Aerobic Endurance Test (VO2 Max) Test Bleep Test Bleep Wushu Athletes Sanda Long-Term PON Training North Sumatra 2024

Putra				Putri			
Interval	Frequency	category	Percentage	Interval	Frequency	category	Percentage
>55	0	Excellent	0 %	>55	0	Excellent	0 %
54 - 50	1	Good	20 %	54 - 50	1	Good	33,33 %
49 - 45	3	Enough	60 %	49 - 45	2	Enough	66,66 %
44 - 38	0	Less	0 %	44 - 38	0	Less	0 %
<37	1	Very Lacking	20 %	<37	0	Very Lacking	0 %
Sum	5		100 %	Sum	3		100 %

Based on the table above, aerobic endurance test data (VO2 Max) *bleep test for* male athletes in the very good category as many as 0 athletes (0%), good category 1 athlete (20%), sufficient category 3 athletes (60%), less category 0 athletes (0%) while in the category less once 1 athlete (20%). In this condition, the aerobic endurance test (VO2 Max) *bleep test bleep* most male athletes are 3 athletes in the sufficient category.

The condition of the aerobic endurance test data (VO2 Max) *bleep test for* female athletes in the very good category was 0 athletes (0%), the good category was 1 athlete (33.33%), the sufficient category was 2 athletes (66.66%), the category was less than 1 athlete (33.33%) while in the category of less than 0 athletes (0%). In this condition, the most frequency aerobic endurance test (VO2 Max)

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Table 10. Recapitulation of Physical Condition Test Results of Wushu Sanda Athletes Long-Term PON Training North Sumatra 2024

COMPONENT	NAME & RESULTS							
	TONGAT	YDRIS	MALIK	RAY	HARRY	TRYDYFA	CATRIN	ELSANDA
Determination <i>V Sit & Reach</i>	4	4	4	5	3	3	5	5
Shoulder & Wrist <i>Deficiency</i>	5	5	5	5	5	5	5	5
Abdominal Muscular Endurance	2	1	2	1	1	1	2	1
Arm Muscle Endurance	5	1	1	1	3	2	1	1
Arm Muscle Explosive Power	2	2	2	4	4	3	3	3
Limb Muscle Explosive Power (Right)	3	3	2	3	3	5	3	5
Speed	5	3	4	3	5	4	2	3
<i>Core Test</i>	1	5	5	5	3	5	2	5
Aerobic Resilience (VO2 Max)	1	4	3	3	3	4	3	3
Sum	31	31	31	35	33	33	29	33
Average Amount	32							
Percentage	62%	62%	62%	70%	66%	66%	58%	66%
Average Percentage	64 %							

Based on the recapitulation table of the test result data above, the physical condition of wushu sanda athletes for men and women of long-term PON North Sumatra Province in 2024 is included in the sufficient category with a percentage of 64%, thus the need to increase the intensity of training programs to support the improvement of athletes' physical condition, in this case the coach must work extra and athletes must also be active and train and follow all the programs that have been compiled and given by the coach to preparation for PON XXI SUMut/Aceh 2024.

B. Discussion

Based on the results of the above research in measuring the physical condition test of wushu sanda athletes, long-term PON North Sumatra Province in 2024 in preparing for PON XXI North Sumatra / Aceh in 2024, all athletes carry out physical condition tests in the form of spasticity tests, abdominal muscle endurance, arm muscle endurance, leg muscle endurance, speed, *core tests*, aerobic endurance (VO2 Max).

Data collection from the flex test using the *v sit and reach* method, the results of these measurements are generally for male athletes in the good category as many as 3 athletes (60%), for female athletes all athletes in the very good category as many as 2 athletes (66.66%). And for the *shoulder & wrist* flexion test, the results of these measurements are generally for male athletes in the very good category as many as 5 athletes (100%), for female athletes all athletes in the very good category as many as 3 athletes (100%), For this for coaches can improve even better because some athletes are still in the sufficient category. To prepare for PON XXI Sumut/Aceh in 2024, it is hoped that all athletes will be in good condition to maximize when competing. Coaches are expected to further improve the flexibility of athletes because there are still athletes who are in the category of sufficient and lacking. Athlete flexibility is also important to improve because flexibility can be able to move the body as wide as possible from the space of motion of joints, muscles, tendons and ligaments (Irwandi, 2010).

Data collection from abdominal muscle endurance test by sit-up 1 minute. Overall male athletes in the category of less than once were 3 athletes (60%). As for female athletes as a whole, they fall into the category of less than once, namely 2 athletes (66.66%). For this reason, the condition of male and female athletes is still in very poor physical condition to prepare for PON XXI Sumatra / Aceh in 2024. Muscular endurance is the capacity of muscles to contract continuously at submaximal intensity levels. This endurance is also needed to maintain activities that last a long time, so in this case it involves the cardiorespiratory system (Nurhasan, 2005: 19). Therefore, it takes hard work for trainers in making exercise programs, especially abdominal muscle endurance.

Data collection from arm muscle endurance test by push-up 1 minute. Overall male athletes in the category of less than once were 3 athletes (60%). As for female athletes as a whole, they fall into the category of less than once, namely 2 athletes (66.66%). For this reason, the condition of male and female athletes is still in very poor physical condition to prepare for PON XXI Sumatra /

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Aceh in 2024. Muscular endurance is the capacity of muscles to contract continuously at submaximal intensity levels. In a wushu sanda match, it takes good arm muscle endurance skills to perform hitting movements for a long time. By having good muscular endurance abilities, the movement in fighting will be maximized. In this case, the coach must also provide a program with high intensity for the improvement of the physical condition of wushu sanda athletes.

Data collection from arm muscle explosive power tests by *chest throw medicine ball*. Overall male athletes in the less category were 3 athletes (60%). As for female athletes as a whole, they are included in the sufficient category, namely 3 athletes (100%). For this reason, the condition of male and female athletes is still in poor physical condition to prepare for PON XXI Sumatra / Aceh in 2024. The explosive power of the arm muscles is the ability of the athlete to use maximum force exerted in the shortest possible time to resist the medicine ball. For the explosive power of the trainer's arm muscles, it would be nice to improve even more until it is in good condition. Because there are still athletes in the category of sufficient and less, this if not improved is feared to worsen the performance of athletes during the match later.

Data collection from the limb muscle explosive power test by *chest tripple hope jump*. Overall male athletes in the less category were 3 athletes (60%). As for female athletes as a whole, they are included in the sufficient category, namely 3 athletes (100%). For this reason, the condition of male and female athletes is still in poor physical condition to prepare for PON XXI Sumatra / Aceh in 2024. The explosive power of the limb is the ability of the muscles to cope with loads or resistance with a very high speed of contraction. Muscle explosive power is a combination of several physical elements, namely strength and speed. For the explosive power of the trainer's arm muscles, it would be nice to improve even more until it is in good condition. Because there are still athletes in the category of sufficient and less, this if not improved is feared to worsen the performance of athletes during the match later.

Data retrieval from speed tests using a 20-meter sprint. The results of these measurements are generally male athletes in the very good category, which is 2 athletes (40%). As for female athletes as a whole, they are included in the sufficient category, namely 3 athletes (100%). For this reason, coaches can improve even better because some athletes are still in the category of women's enough to prepare for PON XXI Sumatra / Aceh in 2024. It is hoped that all athletes are in good condition to maximize when competing. Speed training is very influential for athletes because it can develop the speed of movement and the stability of the athlete's kick. In line with previous research conducted by (Yakin & Hasibuan, 2021), speed training can have an effect on increasing kick speed, judging from the t-count test $> t$ -table ($2.54 > 0.05$).

Data retrieval from *core tests* using the *12 Level Core Stability method*. The results of these measurements are generally male athletes in the very good category, which is 3 athletes (60%). As for female athletes as a whole, they are included in the very good category, namely 2 athletes (66.66%). *Core muscle test* is a test to see core muscle strength. Core muscles function to maintain balance, which affects movement function. In this case, athletes and coaches must maintain their physical condition ahead of PON XXI Sumut/Aceh Year 2024.

The next data is the collection of aerobic endurance test data (VO2 Max) using the *bleep test*. The results of these measurements are generally male athletes in the sufficient category, which is as many as 3 athletes (60%). As for female athletes as a whole, they are included in the sufficient category, namely 2 athletes (66.66%). Cardiovascular endurance is a very important thing for athletes to have. Because cardiovascular endurance determines the endurance of athletes when competing, when competing athletes are required to carry out continuous activities for a long period of time (Nusri & Panjaitan, 2019). For cardiovascular endurance, the trainer would be nice to improve even more until it is in good condition. Because there are still athletes in the category of sufficient and lacking, this if not increased is feared to worsen the performance of athletes during the competition later.

Then based on the recapitulation of the test results data above, the physical condition of wushu sanda athletes for men and women of long-term PON North Sumatra Province in 2024 is included in the sufficient category with a percentage (64%), thus the need to increase the intensity of training programs to support the improvement of athletes' physical condition, in this case the coach must work extra and athletes must also be active and train and follow all the programs that have been compiled and given by the coach in preparation for PON XXI SUMut/Aceh 2024.

IV. CONCLUSIONS

The physical condition of wushu sanda athletes long-term PON North Sumatra Province is mostly in the sufficient category. However, it is better for coaches to always evaluate and conduct regular tests to monitor the development of athletes' physical condition so that they are in good condition and ready to take part in the PON XXI Sumut/Aceh championship in 2024. So that the medals that have been won in the previous championship can be maintained and further improved. The implication of this study

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is that the physical condition of wushu sanda athletes for the long-term PON of North Sumatra Province is not good enough and is not optimally ready to take part in the XXI North Sumatra / Aceh PON championship in 2024.

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