

96 - LEVEL OF PHYSICAL FITNESS OF VOLLEYBALL PRACTICAL ADOLESCENTS

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INTRODUCTION

The practice of physical exercises regularly can demonstrate positive results regarding the health of the distinct population, even though in some individuals these results are not satisfactory (CARDOSO et al., 2014)

Studies have been researched on the effect of physical exercise in children and adolescents on physical fitness. These studies have already demonstrated the link between recommended levels of cardiorespiratory fitness, body composition, muscular endurance, strength and flexibility, thus acting as prevention for the sequence of health problems, these are the components of physical fitness given the terminology of Physical Fitness Related to Health (ApFRS) (MELLO et al., 2015)

In addition to biological factors, environmental factors have a great influence on physical fitness. In the different regions of Brazil, physical fitness in children and adolescents can change considerably, since Brazil is a country of enormous territorial dimensions, differences cultures and lifestyle (OLIVEIRA; GOMES; MACÊDO, 2017).

A series of tests were developed that evaluate motor and health performance parameters with a low cost, the materials are easy to access and apply, in which the criteria of reliability and objectivity are carefully kept. (MELLO et al., 2016)

Physical fitness is a union of attributes that exist in people or the same ones obtain and that has relation with the possibility to carry out or to carry out the tasks of the day to day. (MASCARENHAS et al., 2014).

The present study was made necessary by the increase of the low levels of physical aptitude in schoolchildren, knowing that in the present day people give more importance to the beauty than to the own health.

The results obtained through this study will enable a better understanding of the subject matter discussed here, thus contributing to teaching and research, becoming a study instrument for academics and professionals in the area and an incentive for them to seek the each day to develop new studies in this follow-up.

This study aims to: Analyze the level of physical fitness related to performance (AFRD) of adolescents practicing volleyball in a private school. The objective of this study was to verify the level of physical fitness related to the performance of adolescents practicing volleyball, to identify the level of physical fitness related to the performance of volleyball adolescents and to compare the level of physical fitness related to the performance of volleyball adolescents with the tables proposed by PROESP-BR.

MATERIALS AND METHODS

The research is characterized as descriptive, quantitative, of comparative cross-cutting nature. This research is characterized by describing the personal characteristics of individuals of a population and showing the comparative results in the form of standards or norms (THOMAS; NELSON; SILVERMAN, 2012).

The study was composed of 23 adolescents aged between 11 and 17 years. It was used as inclusion criteria, to be enrolled in the Christ King College of the city of Patos PB, to be practicing volleyball, to be between 11 and 17 years old ..

This study followed all the ethical aspects and was initially submitted to the Research Ethics Committee of the Integrated Colleges of Patos (CEP / FIP), thus meeting the requirements of the National Health Council - Resolution 466/12. The research was approved by the Research Ethics Committee of the Faculdades Integradas de Patos - FIP and has CAAE: 84531318.2.0000.5181 Regarding the participants, it was requested the individual signing of the Term of Free and Informed Consent (TCLE), being presented, at this moment, the research objectives and methods employed, as well as the possible risks and benefits of the study, as well as the confidentiality of the information to be acquired.

Participants were informed about the purpose and procedures of the study, all were informed that participation in the study was voluntary, thus leaving the student desisting when he wished, following with the signature of the TCLE.

The data collected was tabulated and the averages were calculated using the Microsoft Office Excel 2007 program of Excel 2017.

The subjects were submitted to the tests of agility, flexibility, upper and lower limb power, localized muscular endurance, velocity, besides passing through weight and height measurements, following the PROESP-BR manual.

A digital scale (omron), tape measure (3m), adhesive tape (3m), ball medicine Ball 2kg (acte sports), mats (muvin), stopwatch (poker), cones (proAction)

The agility variable was measured by the square test, which consists of the fastest displacement between square-shaped cones in time-taking. In this test demarcate in the place a square of four meters of side. Placing a cone at each angle of the square. Where white tape indicates the place of departure and the direction the student should take. The student will leave the standing position, with an advanced foot ahead immediately behind the starting line. At the evaluator's signal, the student will move at full speed and play with one hand on the cone in each diagonal of the square and be locked when the student touches the fourth cone. Two attempts will be made, and the shortest time will be recorded for evaluation purposes. The measurement will be recorded in seconds and hundredths of a second.

The flexibility was collected by the "sit and reach" test using the protocol suggested by PROESP-BR (2016). A tape measure was placed on the ground. At the 38cm mark was placed a 30cm white tape perpendicular. The student was instructed by the assessor to sit in position and be barefoot. The heels should touch the adhesive tape at the 38cm mark and be 30cm apart. Her knees were outstretched and her hands were overlapping, the grader slowly leaned forward and held her hands out as far as possible. Two attempts will be made and the best brand will be registered.

The explosive force of upper limbs (Medicine Ball 2kg), where a tape was attached to the ground perpendicular to the wall and the tracing zero point fixed to the wall. The valet sat with his knees extended, his legs joined, his back fully supported on the wall. The man held the ball to his chest with his elbows flexed. At the signal of the evaluator, the student throws the ball as far as possible, always keeping his back against the wall. The pitch distance will be recorded from the starting point of the line to the place where the ball touched the ground for the first time. Two attempts have been made, where the longest distance is considered for evaluation purposes.

The lower limb explosive strength test (horizontal jump) was assessed using the non-running distance jump test, known as a standing jump. A 3-meter tape was placed on the ground, where point 0 is located on the starting line marked by an adhesive tape, the evaluated was positioned immediately behind the line, with the feet parallel, slightly apart, knees semi-flexed, trunk slightly projected forward. At the evaluator's signal, the student jumps as far as possible with both feet landing. The distance from the jump will be recorded in centimeters, with a house after the comma, from the line drawn on the ground to the heel nearest it.

The abdominal resistance test (sit up) was performed in which the evaluated subject was positioned in the supine position with the knees flexed at 45 degrees and the arms crossed over the thorax. The evaluator, with his hands, holds the student's ankles fastening them to the ground. At the signal the student initiates the movements of trunk flexion until touching with the elbows in the thighs, returning to the initial position. The student should perform the largest number of complete repetitions in 1 minute. The result will be expressed by the number of complete movements performed in 1 minute.

The speed was evaluated by the 20-meter run test. A chronometer and a 20-meter track marked with three parallel lines on the ground were used as follows: the first (starting line); the second, 20m away from the first (timing line) and the third line, marked one meter from the second (finish line). The third line serves as the arrival reference for the student in an attempt to prevent the student from starting the deceleration before crossing the timeline. The student will leave the standing position with one foot advanced in front of the first line and will be informed to cross the third line as quickly as possible, towards the finish line. The rider will start the timer when the rider takes the first step (touching the ground), beyond the starting line. When the student crosses the second line (20 meters), the stopwatch will be stopped. The time will be recorded in seconds and hundredths of seconds.

RESULTS

The sample of the present research was of 20 evaluated, female and average age of 12.8 years. Statistically significant differences were observed between the Velocity and Agility groups comparing them with the other groups.

Of the individuals evaluated with an age group of 11 and 12 years, four (20.00%) of the evaluated ones are in the zone of health risk and eight (40.00%) are in the zone healthy to the health, already between 13 and 14 years, two (10.00%) of the evaluated ones are in the zone of health risk and one (5.00%) are in the zone healthy to the health, finally, between 15 and 16 years, one (5.00%) are in the zone of health risk and four (20.00%) are in the healthy zone.

Table 1 - Characteristics of the evaluated, according to the age group.

VARIABLES	11-12 years	13-14 years	15-16 years
Age years)	11,5	14	15,2
Weight (Kg)	46,89	60,10	63,90
Height (m)	1,51	1,61	1,62
Flexibility	27,91	31,66	27,40
Abdominal Strength	26,25	26,33	27,40
Speed (sec)	4,14	3,79	4,60
Agility (sec)	7,79	7,55	7,95
Explosive Strength of Upper Members (m)	297,00	372,00	377,00
Explosive Strength of Lower Limbs (m)	142,83	157,66	158,40

Of the individuals evaluated in the abdominal resistance test with age range of 11 and 12 years, three (15.00%) are in the health risk zone and nine (45.00%) are in the healthy health zone, already between 13 and 14 years old, one (5.00%) is in the health risk zone and two (10.00%) are in the health-healthy zone; finally, between 15 and 16 years old, none of those evaluated are in the health risk zone and five (25.00%) are in the healthy zone.

Table 2 - Number of evaluated in each test

VELOCITY	11-12 anos	13-14 anos	15-16 anos
Weak	5	0	3
Reasonable	2	1	0
Good	2	0	1
Very good	2	2	1
Excellence	1	0	0
AGILITY	11-12 anos	13-14 anos	15-16 anos
Weak	10	2	4
Reasonable	1	1	0
Good	0	0	1
Very good	1	0	0
Excellence	0	0	0
UPPER EXPLOSIVE STRENGTH	11-12 anos	13-14 anos	15-16 anos
Weak	0	0	0
Reasonable	2	1	1
Good	3	0	1
Very good	6	2	3
Excellence	1	0	0
LOWER LIMB EXPLOSIVE STRENGTH	11-12 anos	13-14 anos	15-16 anos
Weak	3	0	1
Reasonable	3	0	1
Good	3	1	1
Very good	2	2	1
Excellence	1	0	1

Of those evaluated in the speed test with age 11 and 12 years, five (25.00%) are in the weak zone, two (10.00%) are in the reasonable zone, two (10.00%) are in the good zone, two (10.00%) is in the very good zone, and only one (5.00%) is in the zone of excellence. In the age group of 13 and 14, one (5.00%) is in the reasonable zone, two (10.00%) is in the very good zone, none of the evaluated in this age group are in the weak zone, good and excellence. Finally, among the 15 to 16 year olds, three (15.00%) are in the weak zone, one (5.00%) is in the good zone, one (5.00%) is in the very good zone, none of evaluated in this age group are in the reasonable zone and excellence.

Of those evaluated in the agility test with the age group of 11 and 12 years, 10 (50.00%) are in the weak zone, one (5.00%) is in the reasonable zone, one (5.00%) is in the zone very good, no athlete of this age group has been in the good zones and excellence. In the age group of 13 and 14, two (10.00%) are in the weak zone, one (5.00%) is in the reasonable zone, none of

the athletes was in the zones, good, very good and excellence. In the age group 15 to 16 years, four (20.00%) are in the weak zone, one (5.00%) is in the good zone, no athletes of this age group are in the areas reasonable, very good and excellence.

Of those evaluated in the upper limb explosive strength test, two (10%) are in the reasonable zone, three (15%) are in the good zone, six (30.00%) are in the zone very good and one (5%) is in the zone of excellence, none of the athletes of this age group were in the weak zone. In the age group of 13 and 14 years, one (5.00%) is in the reasonable zone, two (10.00%) are in the very good zone, none of the evaluated ones were in the zone weak, reasonable and excellence. Finally, in the age group of 15 and 16 years, one (5.00%) is in the reasonable zone, one (5.00%) is in the good zone and three (15.00%) are in the very good zone, none of the evaluated, in this age group, were in the weak zones and excellence.

Of those evaluated in the lower limb explosive strength test, three (15.00%) are in the weak zone, three (15.00%) are in the reasonable zone, three (15.00%) are in the good zone, two (10.00%) are in the very good zone and one (5.00%) is in the zone of excellence. In the age group of 13 and 14 years, one (5.00%) is in the good zone and two (10.00%) are in the very good zone, none of the evaluated ones were in the zone weak, reasonable and excellence. Finally, in the age group of 15 and 16, one (5.00%) is in the weak zone, one (5.00%) is in the reasonable zone, one (5.00%) is in the good zone, one (5.00%) is in the very good zone and one (5.00%) is in the zone excellence. DISCUSSION

The evaluation of the physical fitness levels of schoolboys practicing volleyball and of great importance, so that they generate new information with respect to sports performance and motor skills.

Considering the results obtained in this research, it is necessary to dedicate a greater part of the training of the individuals in the abilities of agility and speed.

A study conducted by Oliveira et al. (2017) states that girls obtained the best result in the flexibility test with a mean of 28.80cm, with this, there is a similarity with the present research that verified that the girls obtained an average of 28,99 cm in the flexibility test, thus, the two surveys are in the health-healthy zone.

It was observed in this study that 80% of those evaluated in the abdominal resistance test are healthy in the health zone and 20% of those evaluated are in the health risk zone. A study done by Silva (Silva, 2014) states that of the evaluated 65.63% are in the healthy health zone and 34.37% are in the health risk zone, thus having a similarity in the good and very good zones in relation to the present study.

In the present study, 60.00% of those evaluated were in the weak zone, in which a study by Cardel et al. (2018) also found that 63.72% of those evaluated were also in the weak zone, thus contributing to a similarity in the results obtained in the present research.

In a study by (Schubert et al., 2016), it states that 75% of those who opt for the practice of collective sports have a greater chance of obtaining good physical fitness in upper limb strength, in which it agrees in what is verified in this research, that 80.00% of the evaluated in the strength test of upper limbs, obtained good, very good results and excellence.

It was observed in the present research that there was a balance between the zones evaluated in the strength test of lower limbs, where 60.00% are in good, very good and excellent zones. In a study done by Santos, 2016, it states that 67.65% of the evaluated ones are in the weak and reasonable zones, being below the expected ones in the tables proposed by PROESP-BR, thus having a non-similarity with the present study.

CONCLUSION

Based on the results found, it can be concluded that, in physical fitness related to health, most of the evaluated ones are in the health-healthy zone, with a greater attention in the age group of 11 and 12 years old, where the majority of individuals with health risks.

In the performance-related physical fitness tests, there should be more attention in speed and agility skills, where a greater amount of results was verified between the weak and reasonable zones, the best results were observed in the upper limb explosive strength test and lower, getting most of the evaluated enters the zones good and very good.

We conclude that the results of this study presented in some tests the expected results and in others it needs to have a greater incentive in the training of the abilities.

REFERÊNCIAS

CARDOSO, M. A.; PEREIRA, F.M.; AFONSO, M.R.; ROCHA JUNIOR, I. C.. Educação física no ensino médio: desenvolvimento de conceitos e da aptidão física relacionados à saúde. *Revista Brasileira de Educação Física e Esporte*, v. 28, n. 1, p. 147-161, 2014.

CORDEL P.T.; SOUZA W.C.; LIMA V.A.; HYKAVEI JUNIOR P.; DANZIATO A.V.H.; OLIVEIRA V.M.; MASCARENHAS L.P.G.. Comparação da aptidão física relacionada à saúde e a prática esportiva entre meninos e meninas. *Revista Saúde (Sta. Maria)*. 2018. p. 1-8.

MASCARENHAS L. P. G.; FERREIRA A. B.; LIMA V. A.; GRZELCZAK, M. T. Estudo comparativo da aptidão física entre crianças de escola pública e particular: uma visão regional. *Cinergis*, v. 14, n. 3, 2014

MELLO, J. B.; HERNANDEZ, M. S.; FARIAS, V. M.; PINHEIRO, E. S.; BERGMANN, G. G. Aptidão física relacionada ao desempenho motor de adolescentes de Uruguaiana, Rio Grande do Sul. *Revista Brasileira de Ciência e Movimento*, v. 23, n. 4, p. 72-79, 2015.

MELLO, J. B.; NAGORNY, G. A. K.; HAIACHI, M. C.; GAYA, A. R.; GAYA, A. C. A.. Projeto Esporte Brasil: physical fitness profile related to sport performance of children and adolescents. *Revista Brasileira de Cineantropometria & Desempenho Humano*, v. 18, n. 6, p. 658-666, 2016.

OLIVEIRA, L. D. S.; GOMES, J. L. D. B.; MACÊDO, J. O. R. D. Nível de aptidão física relacionada ao desempenho de escolares praticantes de voleibol de um município do semiárido brasileiro. *RBPFE-Revista Brasileira de Prescrição e Fisiologia do Exercício*, v. 11, n. 65, p. 156-163, 2017.

OLIVEIRA, V. M.; BRASIL, M. R.; CHUMLHAK, Z.; CORDEL, P. T.; CZUY, G. H. B.; SILVA, S. R.. Nível de aptidão física em escolares: influência do índice de massa corporal, sexo e quantidade de sono. *Revista Saúde Meio Ambiente*. Vol 6. Num. 1. p. 4-17, 2017.

PROJETO ESPORTE BRASIL. Manual de testes e avaliação. Disponível em: <<https://ufrgs.br/proesp/>>. Acesso em: 10 nov. 2017.

SANTOS, C. A. M.. Análise da correlação entre potência de membros inferiores e agilidade em escolares. 2016. 29 f. Monografia (Graduação) - Faculdade de Ciências da Educação e Saúde. Centro Universitário de Brasília, Brasília, 2016.

SCHUBERT, A.; JANUARIO, R. S. B.; CASONATTO, J.; SONOO, C. N.. Aptidão física relacionada à prática esportiva em crianças e adolescentes. *Revista Bras Med Esporte*. Vol 2. Num. 2. 2016.

SILVA, A. B.. Avaliação da aptidão física relacionada a saúde: em escolares de 11 a 14 anos de acordo com a bateria do proesp/br. 2016. 40f. Monografia (especialização) Universidade Federal do Paraná, Curitiba, 2014

LEVEL OF PHYSICAL FITNESS OF VOLLEYBALL PRACTICAL ADOLESCENTS

The objective of the study was to analyze the level of physical fitness related to performance in adolescents practicing volleyball. This is a descriptive research of quantitative approach with a sample of 20 adolescents with ages between 11 and 17 years, practicing volleyball in the city of Patos-PB. Six tests were used: agility, flexibility, upper and lower limb power, localized muscular endurance, velocity, and weight and height measurements, following the protocol of the Brazilian Sport Project Manual - PROESP-BR. It was observed that the evaluated ones have average age of 13,6 years, weight 57,0kg, height 1,60m. In the flexibility test, 35.0% are in the risk zone and 65.0% are in the healthy zone, in the abdominal resistance test, 20.0% are in the risk zone and 80.0% are in the healthy zone. In the speed test, 45.0% are above desirable and 55.0% are below desirable. In the agility test, 10.0% are above desirable and 90.0% are below desirable. In the explosive strength test of lower limbs, 80.0% are above desirable and 20.0% are below desirable. In the explosive strength test of lower limbs, 60.0% are above desirable and 40.0% are below desirable. We conclude that the results of this study presented in some tests the expected results and in others it needs to have a greater incentive in the training of the abilities.

Keywords: Physical Fitness. Health. School children.

NIVEAU DE CONDITION PHYSIQUE DU VOLLEYBALL ADOLESCENTS PRATIQUES

L'objectif de l'étude était d'analyser le niveau de condition physique lié à la performance chez les adolescents pratiquant le volleyball. Il s'agit d'une recherche descriptive avec une approche quantitative avec un échantillon de 20 adolescents âgés de 11 à 17 ans pratiquant le volley-ball dans la ville de Patos PB. Six tests ont été utilisés: mesures de l'agilité, de la flexibilité, de la force des membres supérieurs et inférieurs, de l'endurance musculaire localisée, de la vitesse et du poids et de la taille, conformément au protocole du Manuel du projet sportif brésilien - PROESP-BR. Il a été observé que les personnes évaluées avaient un âge moyen de 13,6 ans, un poids de 57,0 kg et une taille de 1,60 m. Dans le test de flexibilité, 35,0% se trouvent dans la zone à risque et 65,0% dans la zone saine, dans le test de résistance abdominale, 20,0% dans la zone à risque et 80,0% dans la zone saine. Dans l'essai de vitesse, 45,0% sont supérieurs à souhait et 55,0% inférieurs à souhait. Dans l'essai d'agilité, 10,0% sont supérieurs à souhait et 90,0% inférieurs à souhait. Dans l'essai de résistance des membres inférieurs aux explosions, 80,0% sont au-dessus de ce qui est souhaitable et 20,0% sont au-dessous de ce qui est souhaitable. Dans l'essai de résistance des membres inférieurs aux explosions, 60,0% sont au-dessus de ce qui est souhaitable et 40,0% sont au-dessous de ce qui est souhaitable. Nous concluons que les résultats de cette étude ont présenté dans certains tests les résultats escomptés et que, dans d'autres, il devrait être plus incitatif à la formation des capacités.

Mots-clés: aptitude physique. Santé, écoliers.

NIVEL DE APTITUD FÍSICA DE ADOLESCENTES PRACTICANTES DE VOLEIBOL

El objetivo del estudio fue analizar el nivel aptitud física relacionada al desempeño en adolescentes practicantes de voleibol. Se trata de una investigación descriptiva de abordaje cuantitativo con una muestra de 20 adolescentes con rango de edad entre 11 y 17 años, practicantes de voleibol de la ciudad de Patos PB. Se utilizaron seis pruebas, siendo ellos: agilidad, flexibilidad, potencia de miembros superiores e inferiores, resistencia muscular localizada, velocidad, además de pasar por las mediciones de peso y altura, siguiendo el protocolo del manual del Proyecto Deporte Brasil - PROESP-BR. Se observó que las evaluadas tienen edad media de 13,6 años, peso 57,0kg, estatura 1,60m. En la prueba de flexibilidad, el 35,0% está en la zona de riesgo y el 65,0% está en la zona saludable, en la prueba de resistencia abdominal, el 20,0% está en la zona de riesgo y el 80,0% está en la zona sana. En la prueba de velocidad, el 45,0% está por encima de lo deseable y el 55,0% está por debajo de lo deseable. En la prueba de agilidad, el 10,0% está por encima de lo deseable y el 90,0% está por debajo de lo deseable. En la prueba de fuerza explosiva de miembros inferiores, el 80,0% está por encima de lo deseable y el 20,0% está por debajo de lo deseable. En la prueba de fuerza explosiva de miembros inferiores, el 60,0% está por encima de lo deseable y el 40,0% está por debajo de lo deseable. Concluimos que los resultados de este estudio presentaron en determinados tests los resultados esperados y en otros necesitan tener un mayor incentivo en los entrenamientos de las habilidades.

Palabras clave: Aptitud física. Salud. Escolares.

NÍVEL DE APTIDÃO FÍSICA DE ADOLESCENTES PRATICANTES DE VOLEIBOL

O objetivo do estudo foi analisar o nível aptidão física relacionada ao desempenho em adolescentes praticantes de voleibol. Trata-se de uma pesquisa descritiva de abordagem quantitativa com uma amostra de 20 adolescentes com faixa etária entre 11 e 17 anos, praticantes de voleibol da cidade de Patos PB. Foram utilizados seis testes, sendo eles: agilidade, flexibilidade, potência de membros superiores e inferiores, resistência muscular localizada, velocidade, além de passarem pelas medições de peso e altura, seguindo o protocolo do manual do Projeto Esporte Brasil - PROESP-BR. Observou-se que as avaliadas tem idade média de 13,6 anos, peso 57,0kg, estatura 1,60m. No teste de flexibilidade, 35,0% estão na zona de risco e 65,0% estão na zona saudável, no teste de resistência abdominal, 20,0% estão na zona de risco e 80,0% estão na zona saudável. No teste de velocidade, 45,0% estão acima do desejável e 55,0% estão abaixo do desejável. No teste de agilidade, 10,0% estão acima do desejável e 90,0% estão abaixo do desejável. No teste de força explosiva de membros inferiores, 80,0% estão acima do desejável e 20,0% estão abaixo do desejável. No teste de força explosiva de membros inferiores, 60,0% estão acima do desejável e 40,0% estão abaixo do desejável. Concluimos que os resultados deste estudo apresentaram em determinados testes os resultados esperados e em outros precisa ter um maior incentivo nos treinamentos das habilidades.

Palavras-chave: Aptidão Física. Saúde. Escolares.