133 - LEVEL OF PHYSICAL FITNESS OF PARTICIPANTS OF SESI – ATHLETE OF THE FUTURE PROJECT IN THE CITY OF SANTA CRUZ DO SUL/RS

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doi: 10.16887/85.a2.133

INTRODUCTION

In a relatively short time, society has undergone considerable changes in the amount of physical activities demanded in the daily routine, being the sedentary life one of the biggest problem of public health. It is considered sedentary the person who does not practice physical activities in leisure, have occupations that do not require physical effort and moves using cars, having equivalent energy expenditure below 500 kcal per week. Sedentarism contributes to the occurrence of chronic diseases, premature deaths and disability (BARBANTI, 2002; NAHAS, 2003).

Physical activity is defined as any bodily movement produced by skeletal muscles which result in energy expenditure above resting state. It is a general term that includes any leisure, occupational and domestic activity, including exercises. In this context, exercise is defined as a planned sequence of movements which aims the development of physical aptitude, motor skills or rehabilitation, that is, exercise is a type of physical activity, but not its synonym (NAHAS, 2003; BARBANTI, 2013).

Physical fitness is combined with a set of biological characteristics that the individual has and can be improved or worsened, depending on the lifestyle followed throughout life (RIBEIRO et al, 2013). It is the ability to perform physical activities, differing by two focus modes: fitness related to motor performance – maximum performance in sports or at work; and fitness related to health – providing more energy for leisure and work, lowering the risk of propensity to chronic degenerative diseases (NAHAS, 2003). Therefore the objective may be based in a little engagement in an activity to get any benefit for the health before illness is established, engage in a considerable dimension of activities in order to improve or maintain a high level of physical fitness, or get involved in an activity that offers to incapacitated people the chance to regain and/or reach the maximum function level. Being that these objectives must be achieved simultaneously that injuries are avoided (PLOWMAN and SMITH, 2010).

The references of the gains of regular physical activity in the improvement of quality of life instigate the attention regarding their huge relation between the levels of physical activity, the indexes on physical fitness and the health condition of the people. Regular physical activity influences on the indexes of physical fitness, which in turn influences the levels of physical activity. Thereby, people who engage in programs of regular physical activities tend to show better indexes of physical fitness and with the increase of this, are likely to become more active (GUEDES and GUEDES, 1995).

According to Oliveira et al (2013) the study of physical fitness related to health is a way to diagnose changes in growth, health condition and revelation of sporting talents, as it raises support for intervention in training programs. It also provides for children and teens critical information to increase the motor skills covered in several sports, benefiting prevention, conservation and increase of functional capacity preceding in better health conditions and quality of life, befitting also for the guidance of lifestyle reeducation (MARTINS et al, 2011; OLIVEIRA et al, 2012).

Aiming to promote sports practice for the development of motor skills, physical fitness and the adoption of the positive values of the Sport, the Social Service of Industry (SESI) of Santa Cruz do Sul, created the Athlete of the Future Project (PAF), which is an action for sports formation, developed in the centers of activity in the premises of the industries or in public facilities for children and young people from the age of 6 to 17. The aforesaid project has its methodology divided in levels of learning: Multi-sport – 6, 7 and 8 years (increase of exercise set), Pre-sports initiation - 9 and 10 years (know as many sports), Sports 1 - 11 and 12 years (introduction to sports), Sports 2 - 13 and 14 years (sports enhancement) and Sports 3 - 15, 16 and 17 years (sports specialization).

The present study aims to access the body composition as an indicator of physical fitness related to the health of subjects admitted in the PAF and the physical fitness related to the motor performance of the same subjects using the protocol of tests PROESP-BR (2012).

METHODOLOGY

The sample of this cross-sectional study consisted of 88 male subjects, aged between 9 and 14, children of industrial workers or the general community. The inclusion criteria to participate in the study were to be enrolled in the activity offered by SESI and deliver the Term of Free and Informed Consent (TCLE) signed by the parents or guardians.

For the assessment of heath related physical fitness of the participants the Body Mass Index (BMI) test was applied. To measure the Physical Fitness related to Motor Performance, the following test recommended by the Sport Brazil Project – PROESP-BR (2012) were applied: Explosive strength of lower limbs (long jump); Agility test (square test); Speed test (20m run). All the tests were conducted in the same place, the Sports Center of SESI, and by the same evaluators, being professionals of Physical Education, helped by undergraduate students of the Course of Bachelor of Physical Education at the University of Santa Cruz do Sul.

The tests protocols and the classifications were based on those established by PROESP-BR (2012), being the results subsequently entered into a spreadsheet of Microsoft Office Excell 2007, and analyzed using descriptive statistics with mean for quantitative variables, and frequency and percentage for the categories.

RESULTS

Table 1 shows the average of the variables assessed, in which no significant differences were observed in absolute values between ages. For the BMI, for the age range from 10 to 14 years, normal parameters of physical fitness related to health were observed. However, in the results for the age of 9, it was observed higher values than the cutoff indicated by PROESP-BR, being classified as risk, configured as indicators of risk to the presence of high cholesterol levels and blood pressure, in addition to the likely occurrence of obesity.

In the physical fitness test related to motor performance: strength of lower limbs, agility and speed, the results were generally unsatisfactory, being more troubling and classified as weak the first test of the ages of 9, 13 and 14, the second for the age of 9 and the third for all ages, except for the age of 10 which were classified as reasonable. As for the other ages, in the three

tests assessed for physical fitness, the participants were classified as reasonable.

Table 1 - Results obtained in the tests

Test/Classification	9 years	10 years	11 years	12 years	13 years	14 years
Body Mass (kg)	36,88	37,80	41,21	45,53	51,43	45,01
Height (cm)	137,69	142,00	145,72	151,11	155,42	160,50
BMI (kg/m²)	**19,48**	18,75	18,76	18,18	20,96	17,48
Classification	**Risk**	Normal	Normal	Normal	Normal	Normal
Strength of lower limbs(cm)	111	138	144	149	147	167
Classification	Weak	Reasonable	Reasonable	Reasonable	Weak	Weak
Agility (s)	**7,47**	6,73	6,61	6,42	6,45	6,15
Classification	**Weak**	Reasonable	Reasonable	Reasonable	Reasonable	Reasonable
Speed (s)	4,79	4,02	4,11	3,97	3,91	3,76
Classification	Weak	Reasonable	Weak	Weak	Weak	Weak

In table 2, it is observed that the participants who show the highest percentage of BMI in the zone of risks to health, are the ones with age 9 and 13, being 53.85% and 41.67% respectively. Almeida et al (2014) evaluated 50 students aged from 9 to 11, of both genders enrolled in the 4th and 5th year of primary school in the city of Mossoró-RN, and verified results similar to the ones of this study, being that 54% were found in the zone of risks to health. Recent studies have shown that being overweight at alarming levels compromises the health from childhood, sprawling through adolescence and many times into adulthood. Many pathologies or perversions in health can arise, such as cardiovascular diseases (HUGHES et al, 2007), fractures, musculoskeletal discomfort and mobility difficulties (TAYLOR et al, 2006).

Regarding the physical fitness related to motor performance, in the test of running speed (20 meters) it was perceived a lower performance in participants aged between 9 (84.62%) and 14 (62.5%), and they were classified as weak, even though most of the participants in each age group also correspond to this classification.

The speed characterized as the capacity to react quickly to neuromuscular stimulation, can be improved, but hardly acquired. Activity of ordinary naturalness in the lives of children and adolescents, as it tends to be part of their daily routine, in activities such as soccer, tag game and bike riding, but every year with the increase of urban areas, it increases the access to technologies such as computers and videogames, making the lives of those subjects less active and their results in the tests negative (TUBINO, 2010).

In the variable of lower limbs explosive power (long jump), there was a great number below performance, for which most subjects assessed of all ages are classified as weak, being the worst result found at the ages of 9 (76.92%), 13 (50%) and 14 (50%) respectively. Pereira et al (2011) in his study evaluated 69 students, of which 35 were male, aged between 7 to 11 of a teaching unit in Brasília, where he found results similar to the ones in this study, where 60% e classified as weak.

The explosive power originates in the process which involves the bursting of chemical energy (ATP) in the muscle, making the immediate movement of strength (ROSA and FARTO, 2007), which overcomes an external resistance (BARBANTI, 2001; ROSA and FARTO, 2007), often in a fast way (BADILLO and AYESTÁRAN, 2000). Gallahue and Ozmun (2001) define explosive power as the ability to perform a maximal effort in the shortest time possible. It is also considered as a competence of the neuromuscular system to move objects or the body with greater speed (STOPPANI, 2008).

Regarding the results of the agility test (square), it is possible to observe that the worst performance of the participants were the 9 years old, being 69.23% of them classified as weak and 23.08% as reasonable, followed by the ages of 13 and 12 with 50% and 31.58% classified as weak respectively. It is also evident when observed in a general way, that more than half of the participants of all ages are classified as weak or reasonable, and their results considered unsatisfactory. Also in a study by Pereira et al (2011) it can be seen that 48.6% of the evaluated male were classified as weak and 20% reasonable, which is similar to the study by Almeida (2014) which identified 14% of its students of both genders as reasonable and 53% as weak, being both results similar to the ones found in this study. Agility can be characterized as the ability to move quickly in possible severe changes in direction (BARBANTI, 2003).

Table 2 – Physical fitness related to health and motor performance

	9 years n (%)	10 years n (%)	11 years n (%)	12 years n (%)	13 years n (%)	14 years n (%)
BMI						
Healthy zone	6(46.15)	5(71.43)	23(79.31)	16(84.21)	7(58.33)	8(100)
Health risk zone	7(53.85)	2(28.57)	6(20.69)	3(15.79)	5(41.67)	-
Strength of Lower Limbs						
Weak	10(76.92)	3(42.86)	11(37.93)	8(42.11)	6(50)	4(50)
Reasonable	2(15.39)	1(14.29)	4(13.79)	6(31.58)	1(8.33)	2(25)
Good	-	1(14.29)	9(31.03)	4(21.05)	4(33.34)	1(12.5)
Very good	1(7.69)	2(28.56)	5(17.25)	1(5.26)	1(8.33)	1(12.5)
Agility						
Weak	9(69.23)	2(28.57)	7(24.14)	6(31.58)	6(50)	2(25)
Reasonable	3(23.08)	2(28.57)	9(31.03)	7(36.84)	2(16.67)	2(25)
Good	-	1(14.29)	10(34.48)	2(10.53)	1(8.33)	3(37.5)
Very good	1(7.69)	2(28.57)	3(10.35)	4(21.05)	3(25)	1(12.5)
Speed						
Weak	11(84.62)	3(42.86)	14(48.27)	9(47.37)	5(41.67)	5(62.5)
Reasonable	-	-	8(27.59)	5(26.32)	3(25)	3(37.5)
Good	2(15.38)	3(42.86)	5(17.24)	4(21.05)	4(33.33)	-
Very good	-	1(14.28)	2(6.9)	1(5.26)	-	-

FINAL CONSIDERATIONS

Analyzing the results, it is possible to conclude that most participants did not show satisfactory results for their age, in all tests done. In the assessment of Body Mass Index (BMI), the high percentage of 9 years old participants classified in the health

risk group, being this variable an aggravating factor for many diseases, some developed in childhood and others in adulthood.

In the physical fitness for motor performance in the agility, speed and lower limbs explosive power tests, the participants showed similar poor results, with the vast majority classified as reasonable and weak for all assessed ages, being the 9 years old group the one that worries the most again.

It is concluded that the intervention provided by SESI Athlete of the Future besides enabling a better planning and an appropriate intervention in all motor aspects, will allow through sports practice the proper development of components of physical and motor skills, which will lead to improvements in the lifestyle and sports performance of the participants.

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LEVEL OF PHYSICAL FITNESS OF PARTICIPANTS OF SESI – ATHLETE OF THE FUTURE PROJECT IN THE CITY OF SANTA CRUZ DO SUL/RS

ABSTRACT

The present study aims to access the body composition as an indicator of physical fitness related to the health of subjects admitted in the PAF and the physical fitness related to the motor performance of the same subjects using the protocol of tests PROESP-BR (2012). The sample consisted of 88 male subjects, with ages between 9 and 14. Analyzing the results of the participants, for the variable of BMI most participants aged 9 (53.85%) and 13 (41.67%) were classified in risk. It is perceived in the speed test a lower performance of participants aged 9 (84.62%) and 14 (62.5%), being classified as weak. In the variable of lower limbs explosive power, the worst results were found at the ages of 9 (76.92%), 13 (50%) and 14 (50%) and classified as weak. In the agility test the worst performance was of participants at the age of 9 where 69.23% were classified as weak and 23.08% as reasonable, followed by participants aged between 13 and 12 with 50% and 31.58% respectively, both classified as weak. It is concluded that the intervention provided by SESI Athlete of the Future besides enabling a better planning and an appropriate intervention in all motor aspects, will allow through sports practice the proper development of components of physical and motor skills, which will lead to improvements in the lifestyle and sports performance of the participants.

KEYWORDS: Physical fitness, health, motor performance.

NIVEAU DE CONDITION PHYSIQUE POUR LES PARTICIPANTS DU SESI – PROJET SUR L'ATHLÈTE DE L'AVENIR DE LA VILLE DE SANTA CRUZ SUL/RS

RÉSUMÉ

La présente étude vise à évaluer la composition corporelle comme un indicateur de la condition physique en rapport avec la santé des sujets qui ont entré au PAF et la condition physique liée à la performance motrice sur les mêmes sujets, en utilisant le protocole de test de PROESP-BR (2012). L'échantillon était composé de 88 sujets du sexe masculin, âgés entre 9 et 14 ans. L'analyse des résultats des participants, dans la variable IMC la plupart des participants de neuf (53,85%) et 13 (41,67%) ans ont été placés dans classification à risque. Dans le test de vitesse on aperçoit des performances moins élevés des participants âgés de 9 (84,62%) et 14 (62,5%) ans, et ils ont été classés comme faibles. Dans la variable force explosive des

membres inférieurs, les plus mauvais résultats ont été trouvés chez les jeunes âgés de 9 (76,92%), 13 (50%) et 14 (50%) ans classés comme faible. Dans le test d'agilité, la plus mauvaise performance des participants a été chez les jeunes de 9 ans étant 69,23% les mêmes de ceux qui sont classés comme faible et 23,08% comme raisonnable, suivi par le groupe d'âge entre 13 et 12 ans avec 50% et 31,58% respectivement tous deux classés comme faible. Nous concluons que l'intervention prévue par le SESI Athlète du Futur, au delà de permettre une meilleure planification et une intervention appropriée dans tous les aspects moteurs, permettra à travers les pratiques sportives le bon développement des composantes de compétences physiques et motrices, ce qui conduira à des améliorations dans le style de vie et dans la performance sportive de ses participants.

MOTS-CLÉS: conditionnement physique, la santé, la performance motrice.

NIVEL DE APTITUD FÍSICA DE PARTICIPANTES DEL SESI – PROYECTO ATLETA DEL FUTURO DE LA MUNICIPALIDAD DE SANTA CRUZ DO SUL/RS

RESUMEN

El presente estudio tiene por objetivo evaluar la composición corporal como indicador de la aptitud física relacionada a la salud de sujetos ingresos en el PAF y la aptitud física relacionada al desempeño motor de los mismos sujetos, utilizando el protocolo de testes del PROESP-BR (2012). La muestra fue compuesta por 88 sujetos del sexo masculino, con edades entre 9 y 14 años. Al analizar los resultados de los participantes, en la variable IMC, la mayor parte de los participantes de 9 (53,85%) y 13 (41,67%) años, quedaron en la clasificación riesgo. En el teste de velocidad se percibe un menor desempeño en los participantes en la faja etaria de los 9 (84,62%) y 14 (62,5%) años, siendo los mismos clasificados como débil. En la variable fuerza explosiva de miembros inferiores, los peores resultados fueron encontrados en las edades 9 (76,92%), 13 (50%) y 14 (50%) años clasificados como débil. En el teste de agilidad, el peor desempeño fue de los participantes de 9 años, siendo 69,23% de los mismos clasificados como débil y 23,08% como razonable, seguido de la faja etaria entre 13 y 12 años con 50% y 31,58% respectivamente, ambos clasificados como débil. Se concluye que la intervención proporcionada por el SESI Atleta del Futuro, además de posibilitar un mejor planeamiento y una intervención adecuada en todos los aspectos motores, posibilitará a través de las prácticas deportivas, el desarrollo adecuado de los componentes de las aptitudes físicas y motoras, que acarreará mejoras en el estilo de vida y en el desempeño deportivo de sus participantes.

PALABRAS CLAVE: Aptitud física, salud, desempeño motor.

NÍVEL DE APTIDÃO FÍSICA DE PARTICIPANTES DO SESI - PROJETO ATLETA DO FUTURO DO MUNICÍPIO DE SANTA CRUZ DO SUL/RS

RESUMO

O presente estudo tem por objetivo avaliar a composição corporal como indicador da aptidão física relacionada a saúde de sujeitos ingressos no PAF e a aptidão física relacionada ao desempenho motor dos mesmos sujeitos, utilizando o protocolo de testes do PROESP-BR (2012). A amostra foi composta por 88 sujeitos do sexo masculino, com idades entre 9 e 14 anos. Ao analisarmos os resultados dos participantes, na variável IMC a maior parte dos participantes de 9 (53,85%) e 13 (41,67%) anos ficaram na classificação risco. No teste de velocidade percebe-se menor desempenho nos participantes na faixa etária dos 9 (84,62%) e 14 (62,5%) anos, sendo os mesmos classificados como fraco. Na variável força explosiva de membros inferiores, os piores resultados foram encontrados nas idades 9 (76,92%), 13 (50%) e 14 (50%) anos classificados como fraco. No teste de agilidade, o pior desempenho foi dos participantes de 9 anos sendo 69,23% dos mesmos classificados como fraco e 23,08% como razoável, seguido da faixa etária entre 13 e 12 anos com 50% e 31,58% respectivamente, ambos classificados como fraco. Conclui-se que a intervenção proporcionada pelo SESI Atleta do Futuro além de possibilitar um melhor planejamento e uma intervenção adequada em todos os aspectos motores, possibilitará através das práticas esportivas, o desenvolvimento adequado dos componentes das aptidões físicas e motoras, que acarretará melhorias no estilo de vida e no desempenho esportivo de seus participantes.

PALAVRAS-CHAVE: Aptidão física, saúde, desempenho motor.