

97 - EFFECTS OF FUTSAL TRAINING ON PHYSICAL FITNESS OF CHILDREN OF CAJAZEIRINHAS - PB

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doi:10.16887/89.a1.97

INTRODUCTION

Futsal is one of the most practiced modalities in the world, the tendency of this modality is that it grows more and more, since it occupies a prominent place in the Brazilian sport scenario (PENNA; MORAIS, 2010). The great growth and appreciation of the sport cause children and adolescents to arouse interest in the sport. Every day they see children playing naked on the streets, blocks, being encouraged by their parents when they are taken to the games or listen to conversations about Brazilian and world-famous futsal athletes (Peres, 2013).

The futsal game is a collective sport that is characterized as being a social activity organized by the practice of physical exercises with a playful character in which the practitioners are grouped in two teams in a relationship of adversity. It proposes a socialization of knowledge such as spatial location, flexibility, laterality, displacement of force and rhythm. As well as respect for the rules, teamwork, ethics, being able to develop cognitive, psychomotor and socio-affective aspects (MELO, 2013).

The sporting modality formerly designated as Saloon Football, had its name changed to Futsal, is defined as being a competitive driving situation, regulated, of a ludic and institutionalized character. However, the futsal modality is not characterized in kicking the ball and making the goal, there is behind the practice aspects related to the physical, technical, tactical and psychological performance of the practitioner (PAULA et al., 2011).

It is notorious that futsal is a sport where there is competition. There are physical regularities to be developed with the practitioners of the sport, because the performance of a team or a futsal athlete depends on the improvement and development of their physical abilities of the sports performance to which these physical, technical, tactical, biotipological and psychological (MENEZES, MARQUES, NUNOMURA, 2014). However, the importance of training is perceived in order to obtain the levels of physical fitness in favorable conditions for sports performance (MONTEIRO, EVANGELISTA, 2011).

Physical fitness is a condition in which the individual possesses sufficient energy and vitality to perform daily tasks and participate in recreational activities without fatigue, repercussions on health, in order to provide complete physical, mental, social and spiritual well-being, and not only the absence of disease or infirmity. Empowering the individual to perform continuous and prolonged tasks, as in the case, the practice of futsal. Among the components of physical fitness are aerobic capacity, flexibility, strength and body composition (GRISI, 2011). In view of this, questions arise about how sport becomes important in the development of an individual's physical fitness, namely, what effects does futsal training bring to the physical fitness of practicing children in the city of Cajazeirinhas - PB? H1:

In this way the objective of the present study was to know the effects of futsal training in the Physical Fitness of children of Cajazeirinhas - PB. As well as: assessing Physical Fitness before and after intervention of practicing children of Cajazeirinhas futsal - PB.

MATERIALS AND METHODS

The methodology used to develop the research project on how a program of physical activities from the futsal practice can collaborate with the development of motor skills in children from 8 (eight) to 10 (ten) years, was the Research Experimental comparative character.

This type of research analyzes groups that have coincident characteristics and submits them to different treatments, verifying the variables that can influence them and defining whether the answers obtained are statistically significant. Moreover, this type of research is indispensable for scholars who want to test hypotheses and establish cause and effect relationships (GIL, 2010).

In this sense, the Experimental Research has an infinite number of advantages in its application, among them the high level of control of the situation stands out, since the researcher can isolate the structures of the external environment that can interfere in the results, generating greater reliability. It is also possible to find numerous possibilities of answers in the realization of a single experiment. The researcher can also manipulate the variables, avoiding misunderstandings or ambiguities. Therefore, it is possible to verify the causal relationships between events by comparing the groups and, finally, the possibility of the research being repeated in other studies and in other populations (GONÇALVES, 2012).

Thus, the object of study was determined by the influence exercised or not exerted of the program of physical activities from the practice of futsal. The variables were determined through the motor skills collected before and after the intervention and summarized by the developmental conditions verified. The study presented here is about quantitative research.

The research project was submitted to the Ethics Committee of the Faculdades Integradas de Patos (FIP) and, only after approval by this entity, was put into practice. In the same way, it was accomplished according to Resolutions nº 466/12 of December of 2012 of the National Health Council that disposes on the ethics in the research with human beings. This resolution guarantees, among other things, respect for the participant in his dignity and autonomy, ensuring his willingness to participate and contribute to the research after clarifying the objectives of the same, its risks and benefits and social relevance.

In this way, all the participants will only be able to contribute to the said research by signing the TCLE (Informed Consent Term) by their family educators, since they are minors. It is a document that expresses the participant's desire to contribute to the research. It must be written clearly, with accessible language and containing all the information necessary for the complete clarification of the research objectives.

POPULATION AND SAMPLE

The research consisted of a population of 150 boys, and the sample of 28 male children aged 8 to 13 years old from the

city of Cajazeirinhas - PB, without distinction of ethnicity, who agreed to participate in the study voluntarily and had allowed by their parents or guardians. With the following inclusion criteria: be between the age mentioned in the study, accept voluntarily participating in the research and bring the free and informed consent signed by the parents or guardians. Have a frequency equal to or greater than 75% during the time of application of the physical activity program. Those who did not obtain a frequency of 75% of the training were excluded.

USED TOOLS

It is known that for a good performance it is necessary that the researcher seek the support of reliable instruments to base their methodology and selection of proposals for the participants (OLIVEIRA ET AL., 2011 APUD GONÇALVES, 2012).

With this objective, the questionnaire of the Brazilian Sport Project (PROESP-BR) was used as a tool to observe the development and growth indicators of children and adolescents from the motor and nutritional point of view (GAYA; SILVA, 2007 APUD GONÇALVES, 2012).

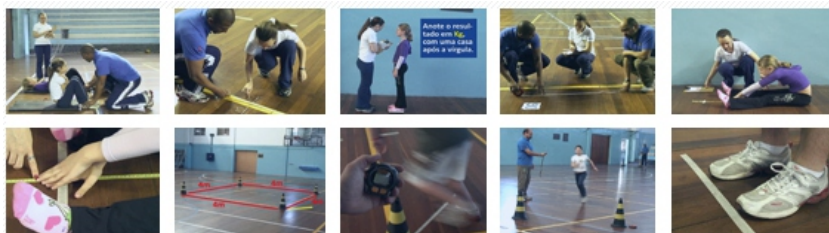
This tool allows a pedagogical support to the physical education professional, since it allows the construction of a system to evaluate the parameters of growth, nutritional profile and physical fitness of children and young people, as well as the construction of the profile of the researched population, allowing the realization of diagnoses on life habits and risk factors associated with sports (GONÇALVES, 2012).

In addition, it is a low-cost and accessible assessment tool, which is why it was chosen as a tool for the development of this study that intends to investigate how to practice a program of physical activities.

First contact was made with the children who will participate in the research in schools, or through the streets of the city of São Bento - PB, the first contact was made verbally with children who fit the aforementioned inclusion patterns. Subsequently children who voluntarily agree to participate in the survey will take home a consent form for their parents to sign, where all the research will be clarified.

The first data collection was through a register where the children will respond to a socio-economic questionnaire, about specific information such as: name, sex, date of birth, sporting modality that they practice, and date of application of tests. In the same sheet, the performance of each of them was recorded according to the initial and final test, ie, Pre and Post training sessions, which were performed twice a week, for 2 hours and for eight weeks. The tests were applied in daily quantity proportional to the capacity of the application and all intervention of the study was done in the multi-sport court of the city of Cajazeirinhas-PB.

The data were obtained through the application of motor tests based on PROESP-BR. The proofs are the following, having as illustrations the demonstrative photo below:



- Measures of body size (mass and height) to calculate the BMI (Body Mass Index calculated using the formula $IMC = \text{mass} / \text{height}^2$) of children and age. For this purpose a tape measure and a portable scale with a precision of 500 grams will be used.

- Flexibility (F): Students will have to sit with their heels spaced 30 centimeters above the 38 centimeter mark of a tape attached to the floor. With knees extended and hands overlapping, testers should lean forward and extend their hands forward as far as possible. Each child will have two chances and the larger result will prevail. A tape measure and an adhesive tape were used.

- Localized muscular resistance (RML): children should lie down with their knees bent at 45°. The evaluator secures the child's ankles that should make the most of bending movements by touching the elbow in the thighs for one minute. A Tecnon chronometer was used to mark the time.

- Cardio respiratory fitness (CA): assess how many meters children run in 6 min. The test was carried out on a soccer field where the measurements of 40m² were marked. A stopwatch and a tape measure were used.

- Throwing medicine ball (AM): All children should sit with their backs propped against a wall and throw a 2kg ball by flexing only the elbows. The distance has been noted in centimeters and each child will have two trials where the largest will prevail. A tape measure and a 2kg ball were used.

- Distance jump (SD): Each child positioned behind a starting line should jump as far as possible with both feet landing at the same time. The result was scored in centimeters and each child will have two attempts, the most prevalent. Tape measure and tape were used.

- 20m race (C): a starting line was added, another line after 20m and another line 2m from the 20m line (this is to avoid deceleration of the children in the 20m line). Children should run as fast as possible towards the third line. The measurement was recorded in seconds and hundredths of seconds. A stopwatch, a tape measure and an adhesive tape were used.

DATAANALYSIS

For data analysis, the Excel 2016 program was used as a resource, making use of tables and comparative with the normative tables of PROESP-BR that have the classification between: very weak, weak, reasonable, good, very good

RESULTS

The final sample of the present study was 29 individuals with mean age of 10.92 ± 1.18 years, body mass of 37.70 ± 8.94 kg and height of 141.3 ± 9.1 centimeters.

The cardiorespiratory resistance results in a mean of 1048.5 ± 97.2 and after the application of the training this average 1141.4 ± 115.9 with a $p (<0.001)$ demonstrating a significant difference (Table 1), which results are verified in the previous flexibility that was 38.4 ± 6.6 and becomes 42 ± 5.6 with a $p (<0.001)$, it is also verified in the Localized Muscular Resistance, where in the previous results were $34.6 \pm 7,1$ and become $37,1 \pm 6,6$ with a $p (<0,001)$, it lasts in the Race of 20 meters where in the previous numbers it was of $3.93 \pm 0,66$ and happened to be of $3, 18 \pm 0.39$ with a $p (<0.001)$. On the variables such as the throw of Medicinebol, where in the pre-tests presented numbers as 3.39 ± 0.8 , but after the training period it became 3.5 ± 0.72 with a $p (0,025)$ and in the Salto in distance with results before 1.4 ± 0.1 becomes 1.51 ± 0.17 with $p (0.002)$ there is no significant difference between them.

Table 1. Comparative analysis of children's physical fitness indicators in pre and post-training of futsal (n = 29).

	Pre-training	Post-training	p
	AVERAGE ± SD	AVERAGE ± SD	
Cardio respiratory resistance	1048±97,2	1141,4±115,9	<0,001
Flexibility	38,4±6,6	42,0±5,6	<0,001
Localized muscle strength	34,6±7,1	37,1±6,6	<0,001
Medicine ball	3,39±0,8	3,5±0,72	0,025
Long jump	1,4±0,1	1,51±0,17	0,002
20 meter run	3,93±0,66	3,18±0,39	<0,001

DISCUSSION

The present study aimed to evaluate the effect of futsal training on physical performance indicators in children. The main findings point to a higher physical performance at the futsal post-training moment when compared at the pre-training time. Data with confirm the experimental hypothesis of the present study, that futsal training in children is able to modify indicators of physical performance.

Ré (2008) points out that futsal is a modality in which the athlete needs to obtain a good technical and physical performance, among the physical components are the cardio respiratory resistance, strength, speed, speed and agility resistance, requiring an adaptation neuromuscular and metabolic. Oliota-Ribeiro et al. (2018), in their study with 12 non-athlete children from 8 to 10 years of age, showed an improvement in cardio respiratory endurance in children after a period of 12 weeks of futsal training, twice a week. Data that corroborate with the findings of the present study.

Additionally, Machado Filho (2012) evaluated 35 children aged 11 to 13 years of age, applied futsal training for 15 weeks and observed improvement in upper limb strength and agility improvement, finding no significant difference for flexibility, abdominal strength and limb strength lower. However, in the study of Dias and Alvarez (2015) with futsal training in children, there was a significant difference for flexibility, lower and upper limb strength for speed, localized muscular resistance and cardio respiratory resistance. Findings with confirm those found in the present study.

Additionally, Machado Filho (2013), in a new study, applying futsal training for 12 weeks, with frequencies of three times a week, presented favorable results to improve flexibility performance (pre = 18.7 + -7cm, post = 19.8 + -8.9 cm), localized muscular resistance (pre = 28.5 + -9.5, post = 30.7 + -9.2), lower limb strength (pre = 1.6 + -0 (Pre = 2.5 + -0.7 m, post = 2.8 + -0.5 m) and agility (pre = 7 + -0.4 m), powders = 6.9 + -0.3m). Training frequency can influence physical performance.

CONCLUSION

In view of the above, it is possible to conclude that futsal training in children is capable of improving the performance of cardio respiratory endurance, localized muscular resistance, upper and lower limb strength, speed and flexibility. Evidenciating the importance of sports practice in school for the improvement of physical performance, as well as for stimulating a healthy and active lifestyle.

It is suggested that new studies investigate different training frequencies and training periods, as well as the comparison between other sports and their physical development in different age groups.

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EFFECTS OF FUTSAL TRAINING ON PHYSICAL FITNESS OF CHILDREN OF CAJAZEIRINHAS - PB

The indicators point out that the results of your life are updated when you start in childhood, which means that there is a movement towards your adulthood. and quality of life. Given this, it is believed that the adoption of lifestyles in children is a very useful measure for the promotion of health and that benefits its motor development throughout life. The present work is to

evaluate the effects of futsal in the Physical Fitness of Children of Cajazeirinhas - PB. Participate in the research 28 (twenty eight) children regularly enrolled in the Escolinha Guerreirinhos de Cajazeirinhas - PB. The evaluation instrument used was the proposal of PROESP-BR (Projeto Esporte Brasil). The children were assessed before and after the training intervention for 8 weeks 2 Daily. They were submitted to a series of tests to perform an evaluation of the components related to motor performance and to a health examination as the health indicators of PROESP-BR (Projeto Esporte Brasil). The final results are significant in all physical performance indicators. It is concluded that futsal training in children is capable of improving the performance of cardio respiratory endurance, localized muscle strength, upper and lower limb strength, speed and flexibility.

Keywords: Motor skills. Motor development. Futsal

EFEITOS DO TREINAMENTO DE FUTSAL NA APTIDÃO FÍSICA DE CRIANÇAS DE CAJAZEIRINHAS – PB

Estudos apontam altos índices de sedentarismo em todas as fases da vida e indicam que quando a prática de esportes tem seu início na infância, o sujeito carrega esse hábito para sua fase adulta o que resulta em diversos benefícios no que concerne ao seu desenvolvimento motor, saúde e qualidade de vida. Diante disso, acredita-se que a adoção de estilos de vida ativos em crianças é uma estratégia amplamente recomendada para a promoção da saúde e que beneficia o seu desenvolvimento motor ao longo da vida. O objetivo deste trabalho é o de conhecer os efeitos do treinamento de futsal na Aptidão Física de crianças de Cajazeirinhas - PB. Participaram desta pesquisa 29 (vinte e nove) crianças regularmente matriculadas na Escolinha Guerreirinhos de Cajazeirinhas - PB. O instrumento de avaliação utilizado foi a metodologia do PROESP-BR (Projeto Esporte Brasil). As crianças foram avaliadas antes e depois da intervenção de treinos durante 8 semanas 2 Diárias. Foram submetidas a uma série de provas motoras para a realização de uma avaliação dos componentes relacionados ao desempenho motor e à saúde utilizando como parâmetro os indicadores de saúde do PROESP-BR (Projeto Esporte Brasil). Os resultados apresentaram diferenças significativas em todos os indicadores de desempenho físico analisado. Conclui-se que o treinamento de futsal em crianças é capaz de melhorar o desempenho da resistência cardiorrespiratória, resistência muscular localizada, força de membros superiores e inferiores, velocidade e flexibilidade.

Palavras-chave: Habilidades motoras. Desenvolvimento motor. Futsal.

EFFECTOS DEL ENTRENAMIENTO DE FUTSAL EN LA APTITUD FÍSICA DE NIÑOS DE CAJAZEIRINHAS - PB

Los estudios apuntan altos índices de sedentarismo en todas las fases de la vida e indican que cuando la práctica de deportes tiene su inicio en la infancia, el sujeto carga ese hábito para su fase adulta lo que resulta en diversos beneficios en lo que concierne a su desarrollo motor, salud y calidad de vida. Por lo que se cree que la adopción de estilos de vida activos en los niños es una estrategia ampliamente recomendada para la promoción de la salud y que beneficia a su desarrollo motor a lo largo de la vida. El objetivo de este trabajo es conocer los efectos del entrenamiento de fútbol sala en la aptitud física de los niños de Cajazeirinhas - PB. Participaron de esta encuesta 29 (veintiuna) niños regularmente matriculados en la Escuela Guerreros de Cajazeirinhas - PB. El instrumento de evaluación utilizado fue la metodología del PROESP-BR (Proyecto Deporte Brasil). Los niños fueron evaluados antes y después de la intervención de entrenamientos durante 8 semanas 2 Diarias. Se sometieron a una serie de pruebas motoras para la realización de una evaluación de los componentes relacionados al desempeño motor ya la salud utilizando como parámetro los indicadores de salud del PROESP-BR (Proyecto Deporte Brasil). Los resultados mostraron diferencias significativas en todos los indicadores de desempeño físico analizado. Se concluye que el entrenamiento de futsal en niños es capaz de mejorar el desempeño de la resistencia cardiorrespiratoria, resistencia muscular localizada, fuerza de miembros superiores e inferiores, velocidad y flexibilidad.

Palabras clave: Habilidades motoras. Desarrollo motor. Fútbol sala.

EFFETS DE LA FORMATION FUTSAL SUR L'APTITUDE PHYSIQUE DES ENFANTS DE CAJAZEIRINHAS - PB

Des études montrent des taux élevés d'inactivité dans toutes les étapes de la vie et indiquent que lors de la lecture de sport a son apparition dans l'enfance, le sujet porte cette habitude à son âge adulte entraînant plusieurs avantages en matière de développement du moteur, de la santé et qualité de vie. Par conséquent, on croit que l'adoption de modes de vie actifs chez les enfants est une stratégie largement recommandée pour la promotion de la santé et les avantages de votre développement moteur tout au long de la vie. L'objectif de ce travail est de connaître les effets de la formation sur les enfants Futsal Fitness physique Cajazeirinhas - PB. Participé à cette étude 29 (vingt-neuf) enfants régulièrement inscrits à la petite école de Guerreirinhos Cajazeirinhas - PB. L'instrument d'évaluation utilisé était la méthodologie de PROESP-BR (Projet Esporte Brasil). Les enfants ont été évalués avant et après l'intervention d'entraînement pendant 8 semaines 2 jours par jour. Ils ont été soumis à une série de tests de moteur pour effectuer une évaluation des éléments liés à la performance du moteur et de la santé en utilisant comme paramètre les indicateurs de santé PROESP-BR (Projet Sport Brésil). Les résultats ont montré des différences significatives dans tous les indicateurs de performance physique analysés. Nous concluons que la formation Futsal chez les enfants sont en mesure d'améliorer la performance de l'endurance cardiorespiratoire, l'endurance musculaire, la force des membres supérieurs et inférieurs, la vitesse et la flexibilité.

Mots-clés: motricité. Développement moteur. Futsal.