142 - NEUROANTROPOMÉTRICK ANALYSIS OF SITTING VOLLEYBALL PLAYERS

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INTRODUCTION

Disabled people were considered a part of society, according to Gioia; Silva; Pereira, (2008). Only after the tragedy of the second world war, where the soldiers have returned to their countries with some physical disability (amputees, paraplegics, etc.), and were considered heroes in these countries, people with disabilities began to be seen with respect and considered normal members of society. With this Dr. Ludwig Guttmann, after studying extensively the sports gesture, managed to enter the practice of physical activity adapted to the process of rehabilitation of disabled people seeking to integrate them into society. (MEDOLA; ELUI; SANTANA, 2010)

According to Gatti et al (2009), in a study done with spinal injury, it was observed that the sport came to regenerate the functionality of mental, physical, social order and also to prevent secondary diseases resulting from injury, thus promoting a health behavior, with the goal of sport for the disabled make a transfer deficiency for physical fitness.

Volleyball sitting, in accordance with the Brazilian Paralimpico Committee (CPB) (2011) in 1956 in the Netherlands with the junction of sitzball, German sport played sitting and without the network, very passive and conventional volleyball, after the founding of the first Club for the disabled in 1953 from which originated the sitzball; Since then the sitting volleyball has been considered one of the most important team sports for athletes with disabilities.

In Brazil the Paralympic sport only came in 1958 with the establishment of the Club of Optimism in the State of Rio de Janeiro and some months later was created the Club of Paraplegics in São Paulo that aimed to bring sports adapted for the physically handicapped (LEVANDOSKI; CARDOSO, 2008). Already the sitting volleyball was introduced in Brazil well recently at the end of the year 2002 and leveraging in 2003 (CPB, 2011)

Gatti et al (2009) States that when we talk about sport adapted many are the criteria to which the athlete can compete in that category, the so-called functional classification, which consists of separate athletes according to their different types and degrees of disability and categorize them according to ability to perform movements, highlighting its potential, this occurs so that there could be a balance of motor actions in various ways paradesportivas.

Sitting volleyball participating individuals with disabilities that second Case and Ram (2011) refers to OSTEO-muscular and neurological problems that affect body function or structure, thus undermining the motor skills, that is, the movement or mobility of the individual, and can be a partial or complete change of one or more segments of the body.

With that, according to the Brazilian Paralympic Committee (2011) this classification divides into amputee and les autres. In les autres, are embedded in people with cerebral palsy or spinal cord affected; already in the category amputees are nine basic classes.

The sitting volleyball has in its overall context the same design of volleyball, but some rules had to be adapted, and they are: the size of the block that is 10 m x 6 m; the lines of attack that are drawn to 2 m away from the axis of the centre line; the network has 6 m in length and 0.80 of width to height of the net is 1.15 m for men and 1.05 m for women. The antennas extend 100 cm from the top of the net (GIOIA, SILVA, PEREIRA, 2008).

Some rules are still more sport specific as; the service can be blocked. The Court is divided into zones of attack and defense, is allowed to touch the legs of players from one team to another, but cannot block the opponent's playing conditions. The positions of the players on the Court are determined and controlled by the positions of their buttocks and so contact with the floor should be maintained in any action, being allowed to lose contact only in displacements. Each game is decided in a best-of-five sets and win each set the team to score 25 points. In the event of a tie, won the first open two points clear. There's still the tie break of 15 points, if necessary. The sport is administered internationally by the world organisation Volleyball for Disabled (WOVD), and in Brazil, by (ABVP) Brazilian Paralympic Volleyball Association. (FELIX, 2009).

Noce; Simim and Mello, (2009) say that regular practice of physical activity by disabled people in General gets major positive effects for the physical, mental and social health and this is related to health, longevity, job satisfaction, family relationships, provision for life, among others, that is, better quality of life.

In this context Silva and Farinatti, (2007) consider the muscle force as an important physical capacity for physical fitness not only for athletes but also for non-athletes, it is defined as the maximum amount of force that a muscle or muscle group can generate in a specific movement pattern and also was considered essential for the maintenance of the quality of life of individuals.

Even in this context, Corseuil and Corseuil (2008) say that body composition is the quantification of the main structural components of the human body, which can be analyzed by direct methods indirect and eou can be divided into specific tissues that make up the total body mass. So you can obtain important information about size, shape and Constitution characteristics influenced by genetic and environmental factors. The three major components of the body basically are: bones, muscles and fat. Variations in body mass are given as a function of the difference in the amount of these tissues, also considering the age and the particularities of each individual. So it is an important tool to meet the chronic degenerative diseases risks and classification of biotype of the subject evaluated.

According to Carmo and Cassidy, (2011) studies in relation to adapted physical Education and sport adapted still have been very scarce, but there are some related to physical activity, health and quality of life as well as self-esteem, mood and his contributions to the disabled.

This study was justified in that it sought to promote a theoretical basis for the practical professional work or intend to work with athletes of volleyball sitting for disabled or sedentary to promote increased adherence to the sport.

The study aimed to describe and analyze body composition profile, neuromotores and aspects of the lifestyle of athletes sitting volleyball Rio de Janeiro. Due to the scarcity of existing literature in the study proposed to add more information to existing benchmarks.

MATERIAL AND METHOD

The present study had the descriptive feature, as proposed to describe the variables, since there was a direct change in the training of subjects, had also feature quantitative and qualitative, quantitative why referred to the analysis of continuous variables (anthropometric measurements) of volleyball athletes sitting in the city of Rio de Janeiro, since there is only one sitting volleyball team (CRVG) composed of 13 athletes in the age group from which this study is proposed to analyze; Qualitative because the subjects were submitted to theoretical evaluation instrument, being all direct source of information about the parameters analyzed in the study and survey due to the type of study performed in the collection. (THOMAS; NELSON; SILVERMAN, 2007).

The study subjects were selected intentionally and probabilistic, not volunteers, practitioners of indoor sitting volleyball in the municipality of Rio de Janeiro, with ages between 21 and 60 years being the media 34.50 ± 13.05 years, male, with an average body mass of 68.25 ± 16.12, kg.

The present study has met the standards for conducting research on Human Beings, resolution 19696 National Health Council of 10101996.

All study participants agreed to sign the term of free and informed Participation (containing research, evaluation procedures, voluntary character of the subject's participation and exemption from liability on the part of the evaluator and the University Estácio de Sá).

In gathering data the subjects responded to anamnesis, PAR-Q (PNEC, 2002) and the IPAQ (CELAFISCS, 2002) short version. After answering the questionnaires, anthropometric measures were measured as body mass, stature sitting member, perimetry, lower limb (of which possessed) and trunk. The final test was also applied to the palmar prehension (hand grip).

Was used to determine the anthropometric measurements a skinfold scientific compass of Cescorf ® brand, a metal measuring tape brand Sanny ®, a mechanical scale Filizola ® brand. Faulkner Protocol was used for measurement of skinfolds in view of the Group of volunteers; the gathering took place in the morning before starting the training and without having practiced before any physical activity, for there is no influence of training on the body composition of the same result.

For the application of the test of strength was used a Kratus ® brand dynamometer, where the individual settled in standing position with your arms outstretched along the body and hold the appliance by the handle and the command he held a maximum flexion of the fingers, two measures were collected on each side of the athlete and the maximum was used.

ANALYSIS AND DISCUSSION OF DATA

Of the 10 athletes 4 athletes were evaluated in the left lower limb amputees, amputee was 1 bilaterally, 1 had lower limb paralysis due to spinal cord injury by firearm projectile, 1 was amputated the left upper limb and 3 were ´ PC s, spastic type 2 in LL and an ataxic type in the left upper limb. Of which 40 were positive index in PAR-Q, noting the risk of cardiovascular disease, where 10 had two positive responses, increasing the risk for this athlete, but it is known that all have medical release for the practice of physical activity. In the International physical activity Questionnaire (IPAQ), 40 athletes qualified very active, active and not active 10 50 (Figure 1).

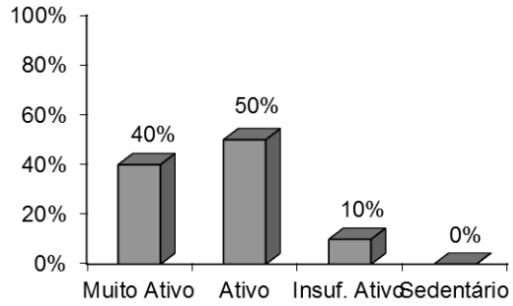

Figura 1: Nível de Atividade Física (IPAQ) dos voluntários

Also found in media of 0.88 ± 0.8 m sitting height, taking into account the height of the net that is 1.15 m for men, the team is relatively high, with vertical range has not been evaluated; but we can consider wingspan 1.74 ± 0.18 m, by correlation of scale with height. The test manual grasping the result was 10.96 ± 34.60 .5kgf for right upper limb, classifying the group as weak and 33.89 ± 11.16 kgf to the left upper limb, classifying them as weak (Figure 2), which, when compared to practicing wheelchair dancesport, have a smaller manual grip strength, perhaps due to the continuous use of the wheelchair (BARRETO; PAULA; FERREIRA, 2010). However, when the results of the manual of the subject holds S5, the results look like, perhaps because this group is the only volunteer to make continued use of wheelchair.

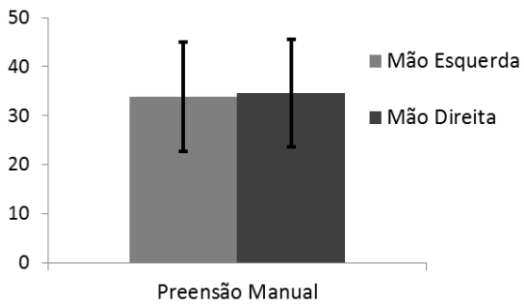

Figure 2: Hold bilateral Manual

The Group analyzed had a fat percentage of 14.67 ± 3.30, being considered as good, adverse to that found by Horta et al (2009) with practitioners of sports adapted, classified as average.

CONCLUSIONS

In view of the lack of studies that make this characterization of the neuroantropométrico profile of the athletes of volleyball sitting, this then, for being the first, did not have as compare with other teams, and the comparison made with different groups have already studied.

Before the collected results in the present study, when parsed grip force manual the Group was considered weak, compared to dancesport athletes in wheelchair. And compared to the fat group was considered good when compared to practitioners and non-practitioners of the sport.

It is recommended that more studies be done to that can characterize the profile of the population analyzed; develop a planning (periodization) for the training of athletes and so there is an improvement in the perception of quality of life, transforming thus the lifestyle of same.

It appears then, that such studies would provide a breakthrough in the development of sport training of sport teams adapted, seeking prestige and acceptance through their results in national and international competitions, where would still in search for the truth and standardization of specific techniques for physical assessment of athletes with disabilities.

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NEUROANTROPOMÉTRICK ANALYSIS OF SITTING VOLLEYBALL PLAYERS

ABSTRACT

Volleyball sitting, according to CPB (2011) in 1956 in the Netherlands with the junction of sitzball, German sport played sitting and without network and voleiboll, after the founding of the first Club for the disabled in 1953. Since then the sitting volleyball has been considered one of the most important team sports for athletes with disabilities. Noce, Simim and Mello (2009) say that regular practice of physical activity by disabled people, gets great positive effects to the physical, mental and social health, i.e., better quality of life. The study aimed to describe and analyze body composition and neuromotores aspects of sitting volleyball athletes in Rio de Janeiro. The subjects were seated volleyball practitioners, volunteers with ages 34.50 ± 13.05 years, male. On the IPAQ, 40% athletes qualified very active, 50% active and 10% not active. The test manual grasping the result was 34.60 + 10.96 kgf for right upper limb, classifying the group as weak and 33.89 ± 11.16 kgf to the left upper limb, classifying them as weak. The Group analyzed had a fat percentage of 14.67 ± 3.30, being considered as good, adverse to that found by Horta et al (2009) with practitioners of sports adapted, classified as average. In view of the lack of studies that make this characterization of the neuroantropométrico profile of the athletes of volleyball sitting, this so didn't have to compare with other teams, and the

comparison made with different groups have already studied. Such studies would provide development of sport training of sport adapted, seeking prestige and acceptance through its national and international results, which would help in the search for truth and standardization of specific techniques for physical assessment of athletes with disabilities.

KEYWORDS: Volleyball sitting; physical assessment; profile neuroantropométrico.

NEUROANTROPOMÉTRICA ANALYSE DES JOUEURS DE VOLLEYBALL ASSIS

RÉSUMÉ

Volley-ball assis, selon CPB (2011) en 1956 aux pays-bas avec la jonction de sitzball, des sportifs allemands ont joué assis et sans réseau et voleiboll, après la création du premier Club pour les personnes handicapées en 1953. Depuis lors le volleyball assis a été considéré un des sports d'équipe plus importants pour les athlètes ayant un handicap. Noce, Simim et Mello (2009) dire que la pratique régulière d'activité physique par des personnes handicapées, obtient de grands effets positifs pour la santé physique, mentale et sociale, c.-à-d., meilleure qualité de vie. L'étude visait à décrire et analyser la composition corporelle et les aspects neuromotores d'assis athlètes de volleyball à Rio de Janeiro. Les sujets étaient des praticiens de volley-ball assis, bénévoles avec Age 34,50 ± années 13.05, mâles. Sur l'IPAQ, 40 athlètes qualifiés très active, active et non active 10 50. Le test manuel saisir le résultat était 10,96 ± .5kgf 34.60 pour membre supérieur droit, classant le groupe comme faibles et 33.89 ± 11.16 kgf pour le membre supérieur gauche, les classer comme des faibles. Le groupe a analysé avait un taux de graisse de ± 14,67 3.30, étant considéré comme bon, défavorable à celle trouvée par Horta et coll. (2009) avec les praticiens du sport adapté, classés comme moyenne. Compte tenu de l'absence d'études qui font de cette caractérisation du profil des athlètes de volleyball assis neuroantropométrico, cela n'avait donc à comparer avec d'autres équipes, et la comparaison faite avec les différents groupes ont déjà été étudiés. Ces études fournirait l'élaboration d'une formation sportive de sport adapté, cherchant le prestige et l'acceptation par le biais de ses résultats nationaux et internationaux, qui aideraient à la quête de la vérité et de la normalisation des techniques spécifiques pour l'évaluation physique des athlètes ayant un handicap.

MOTS-CLÉS: Séance volley-ball ; examen physique ; Profil neuroantropométrico.

ANÁLISIS NEUROANTROPOMÉTRICA DE JUGADORES DE VOLEIBOL SENTADO

RESUMEN

Voleibol sentado, según CPB (2011) en 1956, en los países bajos con el cruce de sitzball, deporte alemán sentado y sin red y voleiboll, después de la Fundación del primer Club de discapacitados en 1953. Desde entonces el Voleibol sentado ha sido considerado uno de los deportes de equipo más importantes para los atletas con discapacidad. Noce, Simim y Mello (2009) dicen que la práctica regular de actividad física de las personas con discapacidad, obtiene grandes efectos positivos para la salud física, mental y social, es decir, mejor calidad de vida. El estudio pretende describir y analizar la composición corporal y aspectos neuromotores de sentarse los atletas de voleibol en Rio de Janeiro. Los sujetos fueron profesionales de Voleibol sentado, voluntarios con edades 34,50 ± 13.05 años, machos. En la IPAQ, 40 atletas calificados muy activos, activos y no activos 10 50. El manual de prueba sujetando el resultado fue 10.96 ± 34.60 .5kgf de extremidad superior derecha, clasificar el grupo como débil y 33.89 kgf ± 11.16 a la extremidad superior izquierda, clasificándolas como débil. El grupo analizó tuvo un porcentaje de grasa de 14.67 ± 3.30, siendo considerado como bueno, adversos a la encontrada por Horta et al (2009) con los practicantes de deportes adaptados, clasificado como promedio. Ante la falta de estudios que hacen de esta caracterización del perfil neuroantropométrico de los atletas de Voleibol sentado, esto así no hay que comparar con otros equipos, y la comparación con diferentes grupos ya han estudiado. Tales estudios proporcionaría desarrollo de entrenamiento deportivo de deporte adaptado, que buscan prestigio y aceptación a través de sus resultados nacionales e internacionales, que ayudaría en la búsqueda de la verdad y la estandarización de técnicas específicas para la evaluación física de los atletas con discapacidad.

PALABRAS CLAVE: Sesión voleibol; evaluación física; perfil neuroantropométrico.

ANÁLISE NEUROANTROPOMÉTRICA DE PRATICANTES DE VÔLEI SENTADO

RESUMO

O vôlei sentado, surgiu de acordo com o CPB(2011) em 1956 na Holanda com a junção do sitzball, esporte alemão jogado sentado e sem a rede e o voleiboll, após a fundação do primeiro clube para deficientes em 1953. Desde então o vôlei sentado tem sido considerado um dos esportes coletivos mais importantes para atletas com deficiência motora. Noce, Simim e Mello(2009) dizem que prática regular de atividade física pelos deficientes, obtém grandes efeitos positivos para a saúde física, mental e social, ou seja, melhor qualidade de vida. O estudo teve como objetivo descrever e analisar a composição corporal e aspectos neuromotores dos atletas de vôlei sentado do Rio de Janeiro. Os sujeitos foram voluntários praticantes de vôlei sentado, com idade média 34,50 ± 13,05 anos, do sexo masculino. No IPAQ, 40% dos atletas se classificaram muito ativos, 50% ativos e 10% insuficientemente ativos. No teste de preensão manual o resultado foi 34,60 ± 10,96 kgf para membro superior direito, classificando o grupo como fraco e 33,89 ± 11,16 kgf para o membro superior esquerdo, classificando-os como fraco. O grupo analisado teve um percentual de gordura de 14,67 ± 3,30, sendo considerado como bom, adverso ao encontrado por Horta et al (2009) com praticantes de desporto adaptado, classificados como na média. Tendo em vista a não existência de estudos que façam essa caracterização do perfil neuroantropométrico dos atletas de vôlei sentado, este então, não teve como comparar com outras equipes, sendo a comparação feita com diferentes grupos já estudados. Estudos desta natureza proporcionariam desenvolvimento do treinamento esportivo dos desportos adaptados, que buscam prestigio e aceitação através dos seus resultados nacionais e internacionais, onde contribuiria na busca pela cientificidade e padronização de técnicas especificas para avaliação física de atletas com deficiência.

PALAVRAS-CHAVE: vôlei sentado; avaliação física; perfil neuroantropométrico.