153 - RCQ, IMC AND CORPORAL FAT (%G) OF PROFESSIONAL PLAYERS OF SOCCER OF SÁ UNIVERSITY ESTÁCIO - 2ª DIVISION OF THE STATE CHAMPIONSHIP OF RIO DE JANEIRO

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Introduction:

Present in 205 countries, the soccer to the long one of its existence conquered the affection of millions of people gifts in all continents, for being a simple of being practiced and economically accessible sport any citizen. Each " Soccer World Cup", carried through championships and matches, this sport became sufficiently competitive, the balance enters the teams during a competition stimulated the search for equalize.

Before analyzed only for behaviors technician and tacticians, with passing of the years, the on professionals directly and indirectly to the soccer, had acquired knowledge themselves that; for if dealing with a sport total practiced and determined during all the moments of a departure, only for the human being, without the influence of any machine or equipment that could determine the result of the game, the physical conditioning of an athlete needed to receive an attention from bigger relevance.

As Peduti (2003), the development of Sciences of the Sport that has occurred in the last decades, with the use of techniques of measures each day more perfected and specific e, more objective and directed physical evaluations to each sport had favored the collection and use of these results of more efficient form, searching to obtain greater has controlled how much to the diagnosis for a sports training that resulted in victorious performance.

The main objectives of an evaluation of the physical aptitude as Pitanga (2005) are: to quantify 0 variable that will be influenced by the practical one of the modality and to follow organic modifications provoked by the systematic training through periodic measurements of the physiological 0 variable. The previous knowledge of the athlete is of basic importance so that the accomplishment of the tests is identified to any contraindication.

Analyzing all these objectives and getting a previous knowledge of the group, we decide to explore the Anthropometry as main evaluation of measures of the athletes. Sobral & Silva (1997), mentioned that the branch of biological sciences directed for the study of the measurable characters of the morphology human being destined it Anthropometry.

The Anthropometry has as main objectives to the cutaneous analysis of perimeters, circumferences, folds and stature. Through the joined values of these measures, applied in small formulas, we get index and relations as: Index of Corporal Mass (IMC), Relation Waist Hip (RCQ) and Percentage of Fat (%G).

Pitanga (2005), prescribes that the necessity to establish an index for relative corporal weight is recognized since the beginning of the anthropometry. The index more used currently is the index of corporal mass (IMC), used in such a way to diagnosis overweight and obesity, how much to diagnosis energy malnutrition chronic.

Another Index of sufficient relevance is (RCQ), whose objective is to determine the risk of coronary illnesses, being strong predictor of premature death and cardiovascular illnesses, being able to be used as adiposity index. In relation to the percentage of fat (%G), the applied equations had had to be considered by the profile of individual or the population group.

Objectives:

Analyzing the present conditions, the study it has as focus, to get values that if they relate to the Index of Corporal Mass (IMC), Relation Waist Hip (RCQ) and Percentage of corporal fat (%G) of divided football players in five position: goalkeepers, backs, laterals, half-fields and forwards.

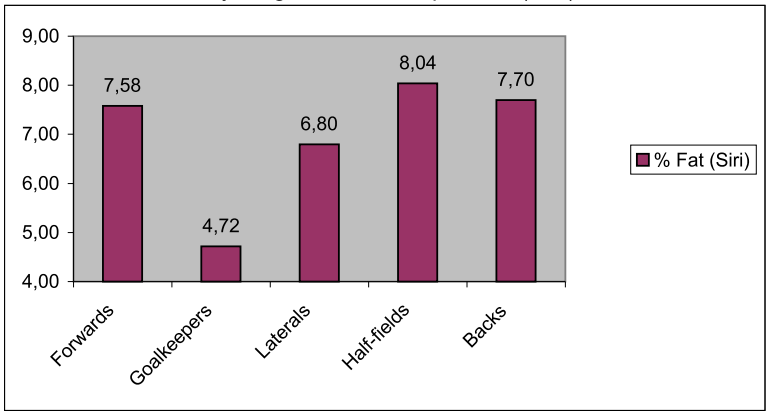
Methodology:

The study he was descriptive of field, as Thomas and Nelson (2002), type data-collecting. The sample was composed for 31 professional football players of the University Estácio de Sá of the Second Division of the Championship of the State of Rio De Janeiro, being all of the masculine sort with average of age of 22,56 ± 1,88 years. For the application of the tests the following material was used: for perimeters a metallic metric ribbon SANNY® with precision of 0,1 cm was used; for cutaneous folds, a science compass CESCORF® with precision 0.1 mm, for corporal mass, one balances mechanics FILIZOLA® with precision 0.1 kg; for science stature, one estadiômetro SANNY® with 0,1 mm of precision.

Results:

After application of the anthropometry evaluation, we identify to the profile of this group of players separating each one in its position of game and dividing the joined averages of these values in three graphs. 1º graphical mentions the Percentage to it of Fat (%G); 2º graphical identifies the Index of Corporal Mass (IMC); 3º indicates (RCQ) of these athletes.

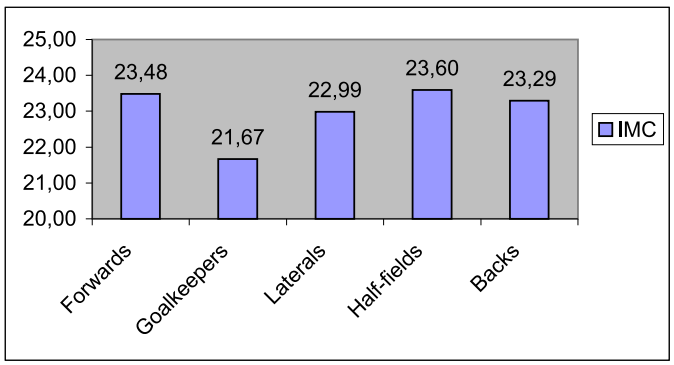
Graph 1 - Percentage of Fat identified by the 5 positions of game. Hespanha (2004) presents a table elaborated for Lohman, published for the ACSM, Health Fitness Journal (1997), with recommended levels of corporal fat (%GC). This table indicates that the classified individuals as adult young which has corporal fat (%G).



Hespanha (2004) presents a table elaborated for Lohman, published for the ACSM, Health Fitness Journal (1997), with recommended levels of corporal fat (%GC).

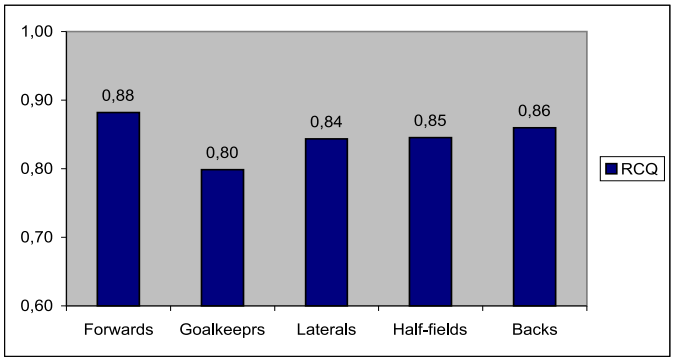
This table indicates that the classified individuals as adult young which has %G < 8,0 they are fit with values not recommended. Analyzing this graph, we verify that the values found for position, with exception of the half-field players, meet below of the recommended one for the ACSM.

Graph 2 - Index of Corporal Mass identified by the 5 positions of game.



According to Bray (1997), as its classification of obesity, classifies with normal weight only the group that it has enters 18,5 the 24,9 kg/m² of IMC.

Graph 3 - Average of the Relation Waist Hip identified by the 5 positions of game.



Bray & Gray (1988), present a picture with Norms for the ratio between circumference of the waist and the hip (RCQ). As the table, man whom age between 20-29 years and has RCQ < 0,83 they are classified with low risk of coronary illnesses.

Conclusion: Analyzing 1º graphical referring to the percentage of fat, we perceive that the group of players who compose the half-field position, has a bigger percentage in relation to the other groups. This characteristic must for the fact of this group of players be carried through a number of bigger actions of aerobics activities where it has as energy source to the fat.

The graph also in them indicates the goalkeepers possessing the percentile minor; compared with the half-field players, we perceive a 41% difference characterizing and confirming the position with low level of aerobics activity which is characterized for movements of great impulse, consequences and short and fast races.

Observing 2º graphical we find the half-field players again possessing a bigger index, in relation to the other players. Possessing a average of bigger weight, this group is characterized for the great distance covered during a departure, for being the components of linking between the backs and aggressors.

Classifying all the group for the recommendations of Bray, we understand that all players of the five positions of game possess characterized its IMC as normal.

Detailing 3º graphical, referring to the RCQ, on the basis of the Picture of Norms for the ratio between circumferences of the waist and the hip, elaborated for Bray & Gray (1988), we observe only the goalkeepers with low risk of coronary illnesses. The four other positions of game had been classified as moderate risk, having as comment the index of the aggressors, who for more 0.01cm would meet with high risk of coronary illnesses.

References:

ANDRADE, Maria Margarida de. **Introdução a Metodologia do trabalho Científico**. 4º Ed São Paulo. Editora Atlas, 1999.

CAMPO, Wagner; BRUM, Vilma Pinheiro da Cruz. **Criança no esporte**. Curitiba, Paraná, Brasil: Universidade Federal do Paraná , 2004.

FILHO, José Fernandes. **A prática da avaliação física**: Testes, medidas e avaliação física em escolares, atletas e academias de ginástica. 2 ed, Shape, Rio de Janeiro, 2003.

LIMA, Dartel Ferrari. **Dicionário de esporte.** Rio de Janeiro: Sprint, 2002.

MOLINKISS, Maria Augusta Peduti. **Esporte e exercícios**: Avaliação e Prescrição: Roca, 2004.

FREITAS, Raimundo Hespanha de. **Medida e avaliação para o esporte e a saúde.** Rio de Janeiro. Rubio 2004.

PITANGA, Francisco José Gondim. **Testes, Medidas e avaliação em educação física e esportes**. São Paulo: Phorte, 2005.

AOKI, Marcelo Saldanha. **Fisiologia, Treinamento e nutrição aplicados ao futebol**. Jundiaí, SP: Fontoura, 2002.

RCQ, IMC AND CORPORAL FAT (%G) OF PROFESSIONAL PLAYERS OF SOCCER OF SÁ UNIVERSITY ESTÁCIO - 2ª DIVISION OF THE STATE CHAMPIONSHIP OF RIO DE JANEIRO

Summary: Gift in 205 countries, the soccer to the long one of its existence conquered the affection of millions of people gifts in all continents, for being a simple of being practice and economically accessible sport any citizen. Each "Pantry of the World", carried through championships and matches, this sport became sufficiently competitive, the balance enters the teams during a competition stimulated the search for equalize. **Objective:** to get values that if they relate to the Index of Corporal Mass (IMC), Relation Waist Hip (RCQ) and Percentage of Corporal Fat (%G) of divided football players in five position: goalkeeper, back,

lateral, half-field and forward. **Methodology:** Description data-collecting type the sample was composed for 31 professional football players of the University Estácio de Sá of the Second Division of the Championship of the State of Rio De Janeiro, being all of the masculine sort with average of age of 22,56 ± 1,88 years, For the application of the tests was used the following one to material: For perimeters a metallic metric ribbon SANNY® was used, for cutaneous folds, a science compass CESCORF®, for corporal mass, a scale mechanics FILIZOLA®, for stature, one science estadiômetro SANNY®, for calculates it of the IMC was used formulates it of Quetelet (1957), for the RCQ it formulates it of Bray & Gray(1988)e for % of fat formulates it of Petroski. **Results :**.As you measured of the results had been for forwards 7,58 G%, 23,48 IMC, 0,88 RCQ, for Goalkeepers 4,72 G%, 21,67 IMC, 0, 80 RCQ, Laterals 6,80 G%, 22,90 IMC, 0,84 RCQ, Half-fields 8,04 G%, 23,60 IMC, 0,85 RCQ, Backs 7,70 G%, 23,29 IMC, 0,86 RCQ. **Conclusions:** after it analyzes of the results, it is perceived that the half-field players had possessed a bigger index of IMC and %G, These values must, for being these athletes, responsible for the linking of the defense for the attack, during a departure, being necessary a bigger aerobic activity which had its permanent request, then needing a greater %G as energy source. Observing still that exactly with bigger indices, its RCQ was minor who the forwards, characterizing a lesser risk of coronary illnesses. **key -Words:** Soccer; IMC; RCQ; % of corporal fat .

RCQ, IMC ET CORPOREL GRAISSE (%G) DES JOUEURS PROFESSIONNELS DU FOOTBALL DE L'UNIVERSITÉ ESTÁCIO - DE SÁ DIVISION 2ª DU CHAMPIONNAT D'ÉTAT DE RIO DE JANEIRO

Sommaire : Le cadeau dans 205 pays, le football à le long de son existence a conquis l'affection des millions de cadeaux de personnes dans tous les continents, pour être un simple d'être pratique et sport économiquement accessible n'importe quel citoyen. Chaque "office du monde", réalisé des championnats et des allumettes, ce sport est devenu suffisamment concurrentiel, l'équilibre présente les équipes pendant une concurrence a stimulé la recherche de s'égalisent. **Objectif** : pour obtenir les valeurs qui si elles se relient à l'index corporel de Mass (IMC), la hanche de taille de relation (RCQ) et le pourcentage de Graisse corporel (%G) des joueurs divisés de football en position cinq : le guardien de but, dos, partie latérale, moitié-champ et expédient **Méthodologie :** Le type de rassemblement des données de description l'échantillon s'est composé pour 31 joueurs professionnels de football de l'université Estácio de Sá de la deuxième Division du championnat de l'état de Rio de Janeiro, étant toute la sorte masculine avec la moyenne de l'âge du ± 22.56 1.88 ans, parce que l'application des essais a été employée les suivants au matériel : Pour des périmètres un ruban métrique métallique SANNY® a été employé, pour les plis cutanés, une boussole CESCORF® de la science, pour la masse corporelle, la mécanique FILIZOLA® d'une balance, pour la stature, un estadiômetro SANNY® de la science, parce que le calcule de l'IMC a été employé le formule de Quetelet (1957), parce que le RCQ il le formule du braillement et Gray(1988)e pour % de graisse le formule de Petroskikey - mots : Le football ; IMC ; RCQ ; % de graisse corporelle. **Les résultats** :.As que vous avez mesuré des résultats avaient été pour expédie 7.58 G%, 23.48 IMC, 0.88 RCQ, pour des guardiens de but 4.72 G%, 21.67 IMC, 0, 80 RCQ, parties latérales 6.80 G%, 22.90 IMC, 0.84 RCQ, Moitié-champs 8.04 G%, 23.60 IMC, 0.85 RCQ, dos 7.70 G%, 23.29 IMC, 0.86 RCQ. **Conclusions** : après qu'il analyse des résultats, on le perçoit que les joueurs de moitié-champ avaient possédé un plus grand index d'IMC et de %G, ces valeurs doit, pour être ces athlètes, responsable de l'enchaînement de la défense pour l'attaque, pendant un départ, étant nécessaire une plus grande activité aérobie qui a eu sa demande permanente, ayant besoin alors d'un plus grand %G comme source d'énergie. Observant toujours qu'exactement avec de plus grands index, son RCQ était mineur qui expédie, caractérisant un peu de risque de maladies coronaires. **clef - mots** : Le football ; IMC ; RCQ ; % de graisse corporelle.

RCQ, IMC Y CORPORAL FAT (%G) DE JUGADORES PROFESIONALES DEL FÚTBOL DE LA UNIVERSIDAD ESTÁCIO - DE SÁ DIVISIÓN 2ª DEL CAMPEONATO DEL ESTADO DE LA LLAVE DE RÍO DE JANEIRO

Resumen: El regalo en 205 países, el fútbol el largo de su existencia conquistó el afecto de millones de regalos de la gente en todos los continentes, para ser un simple de ser práctica y deporte económicamente accesible cualquier ciudadano. Cada "despensa del mundo", llevada a través de campeonatos y de fósforos, este deporte llegó a ser suficientemente competitiva, el equilibrio inscribe a equipos durante una competición estimuló la búsqueda para iguala. **Objetivo**: para conseguir los valores que si se relacionan con el índice corporal de Mass (IMC), la cadera de la cintura de la relación (RCQ) y porcentaje de Fat corporal (%G) de jugadores divididos del balompié en la posición cinco: el portero, parte posteriora, lateral, mitad-campo y remite. **Metodología**: El tipo de la reunión de datos de la descripción la muestra fue compuesto para 31 jugadores profesionales del balompié de la universidad Estácio de Sá de la segunda división del campeonato del estado de Río De Janeiro, siendo toda la clase masculina con el promedio de la edad del ± 22.56 1.88 años, porque el uso de las pruebas fue utilizado la siguiente al material: Para los perímetros una cinta métrica metálica SANNY® fue utilizada, para los dobleces cutáneos, un compás CESCORF® de la ciencia, para la masa corporal, los mecánicos FILIZOLA® de una escala, para la estatura, un estadiômetro SANNY® de la ciencia, porque lo calcula de el IMC fue utilizada lo formula de Quetelet (1957), porque el RCQ lo formula del rebuzno y Gray(1988)e para % de grasa lo formula de Petroski. **Los resultados**:.As que usted midió de los resultados habían estado para remiten 7.58 G%, 23.48 IMC, 0.88 RCQ, para los Porteros 4.72 G%, 21.67 IMC, 0, 80 RCQ, laterales 6.80 G%, 22.90 IMC, 0.84 RCQ, Mitad-campos 8.04 G%, 23.60 IMC, 0.85 RCQ, partes posterioras 7.70 G%, 23.29 IMC, 0.86 RCQ. **Conclusiones**: después de que analice de los resultados, se percibe que los jugadores del mitad-campo habían poseído un índice más grande de IMC y de %G, estos valores debe, para ser estos atletas, responsable de ligarse de la defensa para el ataque, durante una salida, siendo necesario una actividad aerobia más grande que tenía su petición permanente, entonces necesitando un mayor %G como fuente de energía. Todavía observando que exactamente con índices más grandes, su RCQ era de menor importancia quién remite, caracterizando un poco riesgo de enfermedades coronarias.

Palabras-Clave : Fútbol; IMC; RCQ; % de grasa corporal.

RCQ, IMC E PERCENTUAL DE GORDURA DE JOGADORES PROFISSIONAIS DE FUTEBOL DA UNIVERSIDADE ESTÁCIO DE SÁ - 2ª DIVISÃO DO CAMPEONATO ESTADUAL DO RIO DE JANEIRO

Resumo: Presente em 205 países, o futebol ao longo da sua existência conquistou a simpatia de milhões de pessoas presentes em todos continentes, por ser um esporte simples de ser praticado e economicamente acessível a qualquer cidadão. A cada “Copa do Mundo”, campeonatos e torneios realizados, este esporte tornou-se bastante competitivo, o equilíbrio entre as equipes durante uma competição estimulou a busca pelo nivelamento. **Objetivo:** obter valores que se referem ao Índice de Massa Corporal (IMC), Relação Cintura Quadril (RCQ) e Percentual de Gordura (%G) de jogadores de futebol divididos em cinco posições: goleiro, zagueiro, lateral, meio-campo e atacante.. **Metodologia:** descritivo de campo do tipo levantamento de dados A amostra foi composta por 31 jogadores de futebol profissional da Universidade Estácio de Sá da Segunda Divisão do Campeonato do Estado do Rio de Janeiro, sendo todos do gênero masculino com média de idade de 22,56 ± 1,88 anos, Para a aplicação dos testes foi utilizado o seguinte material: para perímetros utilizou-se uma trena metálica da marca SANNY®, para dobras cutâneas, um compasso cientifico da marca CESCORF®, para massa corporal, uma balança mecânica FILIZOLA®, para estatura, um estadiômetro cientifico da marca SANNY®, para o calculo do IMC utilizou-se a formula de Quetelet (1957), para o RCQ a formula de Bray & Gray(1988)e para % de gordura a formula de Petroski. **Resultados**.As medias dos resultados foram para atacantes 7,58 G%, 23,48 IMC, 0,88 RCQ, para os Goleiros 4,72 G%, 21,67 IMC,0,80 RCQ, Laterais 6,80 G%, 22,90 IMC, 0,84 RCQ, Meio campo 8,04 G%, 23,60 IMC, 0,85 RCQ, Zagueiro 7,70 G%, 23,29 IMC, 0,86 RCQ. **Conclusões:** após analise dos resultados, percebe-se que os jogadores de meio-campo possuíram um maior índice de IMC e %G, Estes valores devem-se, por serem estes atletas, responsáveis pela ligação da defesa para o ataque, durante uma partida, sendo necessário uma maior atividade aeróbica devido sua permanente solicitação, logo necessitando de um maior %G como fonte energética. Observando ainda que mesmo com maiores índices, o seu RCQ foi menor que os atacantes, caracterizando um menor risco de doenças coronarianas. **Palavras-Chave:** Futebol; IMC; RCQ; % de gordura.