24 - CHARACTERIZATION MORPH FUNCTIONAL JIU-JITSU - A CASE STUDY

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INTRODUCTION

According to the Confederation of Brazilian Jiu-Jitsu (CBJJ), higher body of the sport in Brazil, the Jiu-Jitsu or "gentle art", was born in India and was practiced by Buddhist monks. Concerned with self-defense, these monks created techniques based upon principles of balance, joint system of the body and levers, avoiding the use of force and firearms. With the expansion of Buddhism, Jiu-Jitsu toured Southeast Asia, China and finally arriving in Japan where it developed and gained further popularity.

From the late nineteenth century, some Jiu-Jitsu masters emigrated from Japan to other continents, teaching the martial arts and the struggles they performed. Esai Maeda Koma, also known as Count Koma, was one of them. After traveling with a troupe which fought in various countries in Europe and the Americas, arrived in Brazil in 1915 and settled in Belem do Para the next year, where he met Gastao Gracie. The father of eight children, five men and three women, Gaston became a Jiu-Jitsu enthusiast and brought his oldest son, Carlos, to learn from the Japanese.

For a naturally frail at 15, Carlos Gracie Jiu-Jitsu a means of personal fulfillment. At 19, he moved to Rio de Janeiro with his family and adopted the profession of fighter and teacher of this martial art. Traveled to Belo Horizonte to Sao Paulo and then, teaching and beating opponents who were physically stronger. In 1925, he returned to Rio and opened the first Academy Gracie Jiu-Jitsu.

By changing the rules of the international Japanese Jiu-Jitsu in the struggles that he and his brothers performed, Carlos Gracie started the first case of change of nationality of a struggle, or sport in world sporting history. Years later, the Japanese martial art became known as Brazilian Jiu-Jitsu, and disclosed to the world, including to Japan

The fights usually are characterized as acyclic because the athletes use different kinds of sequences of movements and expressions of twin-engine capabilities (HIRATA; DEL VECCHIO, 2006).

As today this sport is highly leveled, the athlete is required to go beyond the technical level to emerge victorious, presenting a good fitness level and set goals to achieve results that will be obtained through physical assessments.

Through physical assessment, the professional will have parameters to identify the best activity for the athlete and also the intensity and frequency of these exercises is to work within the training zone, which is individual. According to Fernandes Filho (2003), evaluation is a process by which, using the measures, one can subjectively and objectively, express and compare criteria. The evaluation was judged as the efficient work system used with an individual or group of individuals. Therefore, the aim of this study is to report the profile of a professional athlete morph functional Jiu-Jitsu, assessing their physical condition.

METHODOLOGY

This research answered the "Standards for Conducting Research on Human Beings", Resolution No. 196 of 10 October 1996, the National Health Council, which refers to research that, individually or collectively, engage the human being, directly or indirectly, in whole or partially, including the management of information and materials.

The research is considered a descriptive, which according to Thomas and Nelson (2002), are used to obtain information about existing conditions, with respect to variables or conditions in a situation. It measured an individual male, Brazilian, aged 26 years selected intentionally to present specific features for further research. Before data collection, the subject was informed about the objectives and procedures and instructed to signing the consent form.

It was used as a tool of analysis, a semi-structured interview, comprising: identifying data, anthropometric and physical fitness.

For analysis anthropometric measurements were collected and the following materials: body mass (kg), with the balance of the brand Plenna, height (cm) with fixed stadiometer brand TOLEDO, skinfolds (DC) of the pectoral, abdominal and thigh (mm) and body girth (PC) waist and hip circumference (cm) with the specific type Cescorf compass with scales at 0.01 mm resolution and measuring tape brand SANNY two meters in millimeters. From anthropometric measurements were calculated anthropometric indicators: body mass index (BMI), which is the ratio of body weight by height squared in meters, the waist to hip ratio (WHR) according to the protocol Pitanga (2004), which is represented by the ratio of waist and hip, and body fat percentage (F%) from the estimate of body density determined by the equation of Jackson and Pollock, 1980 (HEYWARD; Stolarczyk, 2000) and by equation Siri (1961). For physical fitness assessments we used the following tests: the appearance of lower limb strength used the protocol of Sargent Jump Test (modified in 1921) and long jump test (CELAFISC, 1987, FERNANDES, 2003). In the evaluations were made of pure strength powerlifting movements, which followed the protocol Bittencourt (1987). For the 1RM tests were performed basic movements lifting (bench press, deadlift and squat) in which he used an Olympic bar 8 kg bench press and a table, both the brand and VITALLY 10 pairs of washers 10 kg.

For the flexibility test was used bank Wells-test sit and reach (cm), localized muscle strength test - flexion of arms and abdominal (rep / min) using a mat and a digital timer.

RESULTS AND DISCUSSION

The results are shown below in table form with general results of the athlete. This table is divided into three parts, which are: personal characteristics, anthropometric variables and results of physical fitness tests.

Table 01: Features workout fighter

Variable	Results
Age	26 years
Gender	Male
Age of training start	16 years
Training time	10 years
Diary training	06 hours
Weekly frequency	06 days

Quadro 02: Variáveis Antropométricas

Variable	Results	Classification
Weight (Kg)	96	-
Height (cm)	1,8	-
Fat (%)	3,98	Excellent
RCQ (cm)	0,87	Normal
IMC (Kg/cm²)	29,6	Overweight

Table 03: Data regarding the evaluation of physical fitness

Flexibility Test (cm)	45,5	Excellent
Vertical leap (cm)	2,86	Excellent
Horizontal jumping (cm)	2,8	Excellent
Pressure Test Palmar-left.(Kg)	54,03	-
Pressure Test Palmar – right (Kg)	58,13	-
Pressure Test Palmar (Left + right) (Kg)	113	Excellent
Flex Test (Rep/Min)	73	Excellent
Test Abdominal (Rep/Min)	70	Excellent
Test 12 Minutes(min)	2.950	Muito Bom
VO_{2max}	54.6	Bom
Powerlifting (1RM)		
Flat Bench (kg)	148	Excelente
Deadlift (kg)	142	Excelente
Squat (kg)	186	Excelente

Taking into account the result of BMI and WHR, and the individual would be with overweight and moderate risk to health, but BMI is not suitable for people who have a lean muscle above recommended levels because it compares the body mass as a whole and lacks individualization between muscle mass with adipose mass. This is one of the factors that the athlete had studied its overweight rating.

With the completion of the assessment of body composition using the technique of Σ3 folds proposed by Jackson and Pollock (1978 and 1980) and the prediction formula of Siri (FERNANDES, 2003) proves to be controversial, because the result was found to be 3, 98% body fat, since Miranda Pereira and Porto (2004) found an average of 15.5% with young Jiu-Jitsu.

Regarding flexibility, the bank Wells, evaluated the athlete presented with the test value of 45.5 cm which is close to the average value found by Miranda Pereira and Porto (2004), in a sample of 20 athletes Jiu- Jitsu (42.8 ± 3.02).

In palmar pressure test, the averages were summed left and right hands, getting a single value of 113 kg, stating that the athlete are above average according to the protocol for the Canadian Societyz Physiolgy Exercise, (1996). This has a relationship because athletes Jiu-Jitsu are used in all stages of the fight palmar strength to hold and apply strokes on his opponents.

With the results obtained in tests of abdominal and arm flexion in 1 minute, suggested by Pollock and Wilmore (1993), the individual is classified as excellent, having managed to perform 73 repetitions in the test arm flexion and 70 reps on the abdominal test , which is above the values established in the literature.

In comparison tables references (Modified from HJ Montaye, Living Fit, p. 53, 1988, in Fernandes Filho, 2003) for the vertical jump and the standing long jump (SON FERNANDES, 1998) the athlete exceeds the levels of excellence .

During the testing of basic lifting (bench press, deadlift and squat free) in 1RM, find real values higher than the average for bench press (109.14 kg), deadlift (138 kg) and free squat (110 kg), described by Del Vecchio et al (2005) with a sample of Jiu-Jitsu world in 2004.

To assess aerobic function was used for the test protocol Cooper 12 minutes, following a reference table (POLLOCK, 1993), where he reached me in 2510 was classified as very good in relation to the classification of VO2MAX indicating this individual is with a great cardiorespiratory fitness.

CONCLUSION

Despite being a sport booming nationally and worldwide, there are few scientific studies of their respect.

Observed with this analysis, results showed that individuals who are highly respected and is always ranked in good to excellent values.

We must emphasize that the difficulty of not having some comparison tables variables, we used some tables for non-athletes, which complicates the classification of real performance.

In the case of high-performance athletes, not only is appropriate to relations of BMI and WHR, since you have a very high variance, fleeing the normal range.

You could say that Jiu-Jitsu athlete requires both like any other sport in the levels of fitness and performance. We emphasize, therefore, the importance of the need for awareness of the athlete, that the work of physical conditioning is fundamental to the achievement of performance sports.

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CHARACTERIZATION MORPH FUNCTIONAL JIU-JITSU - A CASE STUDY

ABSTRACT

The Jiu-Jitsu is a sport that is in great rise and every day is gaining a larger number of supporters. Given its complexity, most coaches and trainers know the physiological characteristics and motor expressed during the fight, which predispose them to train their athletes empirically, based on knowledge and brought perpetuated for decades. Therefore the purpose of this research was to characterize the morphological and functional profile of an individual practitioner of Jiu-Jitsu that has significant results in state championships, national and global. This goal is justified by the few studies related to this issue and the fact that knowledge about the characteristics of practitioners struggle is essential for planning and adaptation to training. The research is featured as a case study. The individual is characterized male aged 26, who for 10 years practicing the sport and that figure as the world's best in its class (Heavy) and among the top four in the world in absolute division (no weight limit). The research instrument used was a semi-structured interview regarding training characteristics, anthropometric measurements and performance on tests of physical fitness (flexibility, strength / power of upper and lower limbs, strength / resistance and abdominal flexion of arm, horizontal and vertical jumping and aerobic capacity). From the results, it was found that the athlete study, presents with a high degree of performance, which shows that the athlete has high levels of qualification for high performance sport, featuring highly significant data for further comparative studies. The data revealed that the practice of Jiu-Jitsu requires a proper physical preparation for practitioners both nationally and internationally.

KEYWORDS: Jiu-Jitsu, fitness, morphofunctional.

CARACTÉRISATION MORPHOFONCTIONNELLE JIU-JITSU - ÉTUDE DE CAS

RÉSUMÈ

Le Jiu-Jitsu est un sport qui est en grande élévation et chaque jour gagne un plus grand nombre de partisans. Compte tenu de sa complexité, la plupart des entraîneurs et des formateurs connaître les caractéristiques physiologiques et motrices exprimées au cours de la lutte, qui les prédisposent à former leurs athlètes de manière empirique, basée sur la connaissance et a perpétué depuis des décennies. Par conséquent, le but de cette recherche était de caractériser le profil morphologique et fonctionnelle d'un praticien de Jiu-Jitsu qui a des résultats significatifs dans les championnats état, national et mondial. Cet objectif se justifie par les quelques études relatives à cette question et le fait que les connaissances sur les caractéristiques de la

lutte des praticiens est essentielle pour la planification et l'adaptation de la formation. La recherche est présenté comme une étude de cas. L'individu est caractérisé homme de 26 ans, qui pendant 10 ans la pratique du sport et ce chiffre comme le meilleur au monde dans sa catégorie (lourd) et parmi les quatre premiers dans le monde dans la division absolue (pas de limite de poids). L'instrument de recherche utilisé était un entretien semi-structuré concernant les caractéristiques de la formation, des mesures anthropométriques et les performances aux tests de condition physique (souplesse, force / puissance de membres supérieurs et inférieurs, la force de flexion / résistance et abdominale du bras , saut à l'horizontale et verticale et la capacité aérobique). D'après les résultats, il a été constaté que l'étude athlète, présente un haut degré de performance, ce qui montre que l'athlète a des niveaux élevés de qualification pour le sport de haute performance, avec des données très importantes pour de nouvelles études comparatives. Les données ont révélé que la pratique du Jiu-Jitsu nécessite une bonne préparation physique pour les praticiens de niveau national et international.

MOTS-CLÉS: Jiu-Jitsu, fitness, morphofonctionnelles

CARACTERIZACIÓN MORFOFUNCIONAL JIU-JITSU - ESTUDIO DE CASO

RESUMEN

El Jiu-Jitsu es un deporte que está en gran aumento y cada día está ganando un mayor número de seguidores. Dada su complejidad, la mayoría de los entrenadores y preparadores conoce las características fisiológicas y motoras expresadas durante la lucha, lo que les predisponen a entrenar a sus atletas (empirico não sei oque é), basado en el conocimiento y trajo perpetuado durante décadas. Por tanto, el propósito de esta investigación fue caracterizar el perfil morfológico y funcional de un individuo practicante de Jiu-Jitsu que tiene importantes resultados en campeonatos estatales, nacionales y mundiales. Este objetivo se justifica por los pocos estudios relacionados con este tema y el hecho de que el conocimiento sobre las características de la lucha de los profesionales es esencial para la planificación y la adaptación al entrenamiento. La investigación se presenta como un estudio de caso. El individuo se caracteriza el hombre de 26 años, que durante 10 años practicando este deporte y que figura como el mejor del mundo en su clase ("pesado" não consegui encaixar esse termo no texto) y entre los cuatro mejores del mundo en la división absoluta (sin límite de peso). El instrumento de investigación utilizado fue una entrevista semi-estructurada con respecto a las características de formación, medidas antropométricas y el desempeño en las pruebas de aptitud física (flexibilidad, fuerza / potencia de miembros superiores e inferiores, flexión de fuerza / resistencia abdominal y del brazo , salto horizontal y vertical y la capacidad aeróbica). De los resultados, se encontró que el estudio de atleta, se presenta con un alto grado de rendimiento, que muestra que el atleta tiene altos niveles de calificación para el deporte de alto rendimiento, con datos altamente significativas para otros estudios comparativos. Los datos revelaron que la práctica del Jiu-Jitsu requiere una preparación física adecuada para los profesionales tanto a nivel nacional como internacional.

PALABRAS CLAVE: Jiu-Jitsu, fitness, morfofuncionales.

CARACTERIZAÇÃO MORFOFUNCIONAL DO JIU-JITSU – UM ESTUDO DE CASO

RESUMO

O Jiu-Jitsu é um esporte que está em grande ascensão e a cada dia vem ganhando um número maior de adeptos. Tendo em vista sua complexidade, grande parte dos técnicos e preparadores físicos desconhecem as características fisiológicas e motoras manifestadas durante a luta, o que os predispõem a treinar seus atletas de forma empírica, baseando-se em conhecimento trazidos e perpetuados há décadas. Portanto o propósito desta pesquisa foi caracterizar o perfil morfofuncional de um indivíduo praticante de Jiu-Jitsu que tem resultados expressivos em campeonatos estaduais, nacionais e mundiais. Tal objetivo se justifica pelos escassos estudos relacionados a esse assunto e pelo fato de que o conhecimento sobre as características dos praticantes da luta é imprescindível para o planejamento e adequação ao treinamento. A pesquisa é caracterizada como estudo de caso. O indivíduo caracteriza-se do sexo masculino com idade de 26 anos, que há 10 anos pratica o esporte e que figura como o melhor do mundo em sua categoria (pesado) e entre os quatros melhores do mundo na categoria absoluto (sem limite de peso). Como instrumento de pesquisa foi utilizado, uma entrevista semiestruturada referente às características de treino, avaliações antropométricas e mensurações do desempenho em testes da aptidão física (flexibilidade, força/potência de membros superiores e inferiores, força/resistência abdominal e de flexão de braço, salto vertical e horizontal e capacidade aeróbia). A partir dos resultados, verificou-se que o atleta em estudo, apresenta-se com um alto grau de desempenho, os quais revela que o atleta tem altos níveis de qualificação para o alto rendimento esportivo, apresentando dados altamente significativos para posteriores estudos comparativos. Os dados obtidos revelaram que a prática do Jiu-Jitsu exige uma preparação física adequada para praticantes de nível nacional e internacional.

PALAVRAS-CHAVES: Jiu-Jitsu, aptidão física, morfofuncional.