121 - DERMATOGLYPHIC PROFILE AND BASIC PHYSICAL QUALITIES OF JIU-JITSU ATHLETES

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INTRODUCTION

The origin of jiu-jitsu is millenarian, gives credit that first attack or defense of a human being would be characterized the fight. Evidently, the instinct of attack and defense are latent in the man. coordination of this aggressiveness, its stylish and the respect to the laws of Nature results in the creation of the martial arts. Amongst them, jiu-jitsu is one of subtlest, since in this, the study of the anatomy human being and its points fragile, the use of handspikes of corporal segments, the principle of the physics and flexibility harmonized with the mind, they result in one of the most refined arts. This sport has as basic principle to use the minimum of force. For a good one result, uses to advantage it weakness and the force adversary.

Jiu-jitsu is considered the mother of the martial arts. In Brazil, this sport had its adaptations, was perfected and acquired one level the technician who detached it world-wide, becoming most recognized for its efficiency and competitiveness. For these reasons and the fact to possess some responsible federations and organizations for the development and spreading of the sport and its image in the country and, mainly, the world.

Nowadays, jiu-jitsu Brazilian and so superior to the too much countries where it is practiced that it was a Olympic modality, almost all its categories would be won by Brazilians. Therefore, the importance to study and to identify to the profile of these athletes and its physical qualities basic this study of the relation of the performance aspect the election and sportive orientation. According to Teplov *apud* Fernandes Filho (1999), the talent not it predetermines the success, but yes it is the condition of its reaction.

The dermatoglifia is the study of the fingerprints, this field of study already comes being searched has much time for the Russians and has little time is being used here in Brazil. As Dantas Hisses *et al.* (2005), the dermatoglifia is characterized for being a genetic marker of ample specter, for use in association with basic the physical qualities and typology of staple fibres.

The identification of basic the physical qualities of one specific sport in training and the adequacy of them to the objectives of exactly is the essential step for the success of a physical preparation (TUBINO, 1979). Thus, the physical qualities are basic for analysis of the physical conditioning of athlete and its preparation for the practical one of a sport. For athlete of jiu-jitsu, the necessary physical qualities to a good performance are on to force, muscular resistance and coordination.

The force is indispensable element for any type of movement, simplest to most complex, being thus, the physical valence of more importance (TUBINO, 1979).

The muscular resistance evolves the capacity of a muscle or muscular group to repeat movements identical - dynamic - or to keep certain degree of tension for some time - static (ACSM, 1994).

The coordination is "the mental control on the expression motor "(TUBINO, 1985). Dantas (1999) stands out that the coordination is the capacity to carry through movement of excellent form, with maximum of effectiveness and economy of efforts. Mind and body propitiating the motor combination that will allow accomplishment of a series of movements with the effectiveness maximum and economy.

OBJECTIVE

The objective of this study is centered in identification of the dermatoglíficas characteristics and basic the physical qualities; force of explosion, muscular resistance, motor coordination; through tests neuromusculares between masculine athletes of high income of jiu-jitsu.

METHODOLOGY

Model and type of study

One is about a descriptive research that uses one typology of profile.

Population

The population of the study was constituted by 27 fighters of jiu-jitsu of high level. Athlete of competition, 70% with headings of state, national and international championships. The research took care of to the norms for accomplishment of research in human beings - resolution 196/96, of the Advice National of Health, 10/10/96.

Instruments

For analysis of the fingerprints it was used protocol of Dermatoglifia de Cummins and Midlo (1943), to whom if relates Fernandes Filho (1997). The method used in the present research, approached phases of processing and attainment of the digital ones, being analyzed in the way displayed below.

▪ The drawings in the distal phalanxes of the fingers of the hands:

– Arc (): drawing without deltas - one characterizes for the absence of trirrádios or deltas and is composed in cristas that they cross, transversally, the digital cushion;

– Fastener (L): drawing of a delta - one is about a half closed drawing where the crests of the skin start of one extremity of the finger, is incurvated distaly in relation to the other, but without if to approach of that one where if they initiate. If the Fastener is opened for the side radial, (r) starts to call itself Radial. If ulna will be opened for the side, Ulna is called (u);

– Verticilo (W): drawing of two deltas - one is about a closed figure, where the lines central offices they are concentrated around the nucleus of the drawing.

▪ The amount of lines (QL) - amount of lines of the interpapilares crests, inside of the drawing, is counted according to line that binds to the delta and the center of the drawing, without leading in consideration first and the last line of the crest. At this moment, they had been calculated the basic standardized indices of the fingerprints:

– The amount of the drawings of different types for the 10 fingers of the hand;

– The amount of lines (QL) in each one of the fingers of the hands;

– The summary intensity of drawings, in the 10 fingers of the hands, or the index delta (D10); this if gets following the addition of deltas of all the drawings, way that the "evaluation" of Arc (a) is always zero and has delta absence; of each Fastener (l) - a delta; of each Verticilo (w) e (sw) - two deltas;

– The somatory of the amounts of lines (SQTL) are equivalent to the addition of the amount of lines in the 10 fingers of hands;

– The types of digital formulas they indicate the representation in the individuals of different types of drawing. It is identified, to all, the existence of 6 (six) types of digital formulas: AL, ALW, 10L, LW, WL, 10W.

To evaluate the physical qualities they had been used stops explosion force, the tests of flexion of arm (FERNANDES FILHO, 2003); it stops located muscular resistance, the test of abdominal flexion, for the act of to sit down per 60 seconds (POLLOCK, 1993); e for coordination, the test of Burpee (JOHNFILHO & NELFILHO, 1976).

PRESENTATION OF RESULTS

In accordance with the results in Table 1, the fighters of jiu-jitsu they had presented low level in the drawing Arc (), that it determines a daily pay-disposal to one low motor coordination. The Fastener (L), is characterized for being one genetic marker of resistant speed, that in the fighters of jiu-jitsu had the average greater enters the drawings of the IDs, proving that they have a daily pay-disposal genetics to the explosion force. The drawing verticilo (W), if correlates very with the resistance and high levels of motor coordination. In the athletes searched, this drawing had a significant characteristic, demonstrating its importance for this sport.

TABLE 1

AVERAGE VALUES E ITS DERIVATIVES FOR THE DIGITAL DRAWINGS, D10, SQTL OF THE ATHLETES OF JIU-JITSU.

		L	W	D10	SQTL
N	21	21	21	21	21
Average	5%	65%	30%	12,71	126,24
DP				3,42	39,02
Mín	0	2	0	5	28
Máx	5%	100%	80%	18	183

Still, through Table 1, we can identify results of D10 and SQTL in top of the average predicted for a good motor coordination. As Silva Dantas *et al.* (2003), this average is 13,4 for D10 and 134 for the SQTL.

TABLE 2

AVERAGE VALUES E ITS DERIVATIVES FOR THE PHYSICAL QUALITIES OF THE ATHLETES OF JIU-JITSU.

	FB	ABD	BURPPE
N	21	21	21
Average	51,86	47,52	6,48
DP	11,10	6,10	0,68
Minimum	31	37	5
Maximum	72	57	7

In Table 2, we can verify the gotten results in basic the physical qualities of the athletes of jiu-jitsu that they had been part of population of the present study. To leave of it, which can be determined more significant physical quality in the practical one of this sport. Thus, with (51,86 ± 11,1), the flexion of arm demonstrates the physiological profile of the athletes of jiu-jitsu as more anaerobic, proving that the force is one of the physical valences more important in this sport.

The results of the test of abdominal had also been sufficiently expressive, demonstrating the athletical character of high level of the group searched. Value (47,52 ± 6,10) sample that the athletes possess a capacity of muscular resistance to the necessary movement for athlete performance.

The test of Burpee aims at to present the relation of coordinative capacity of an athlete with made complex movements in ten seconds. The results in the athletes of jiu-jitsu had been significant for having made a average of 6,5 repetitions in this test.

CONCLUSION

The research showed the fighters of jiu-jitsu possess more resistant speed and force of explosion of that resistance. The biggest amount of Fastener (I) it justifies the fact to have obtained better resulted in test of flexion of arm. On the other hand with verticilo (w) average, athletes of jiu-jitsu had gotten the performance in the abdominal test of satisfactory, but not so expressive how much the results in flexion of arm. Still, they also they had demonstrated good levels of D10 and SQTL that justify the good performance in the test of Burpee that is related to the motor coordination, essential for the practical one of this sport. For the enlargement of the sport, one sends regards more that research with athlete of jiu-jitsu with these evaluated characteristics is made and argued.

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DERMATOGLYPHIC PROFILE AND BASIC PHYSICAL QUALITIES OF JIU-JITSU ATHLETES
ABSTRACT

The present study had as objective to identify dermatoglyphic profiles and the physical qualities that the athletes characterize of high level of jiu-jitsu. As sample, it was used 27 athletes of high level, champions of national, international and pan-american championships. The group was submitted to an evaluation for identification of the dermatoglyphic profile by means of the fingerprints (ID) - according to the Protocol of Cummins and Midlo (1942) - and the physical qualities through neuromuscular tests, push-ups, abdominals and Burpee (FERNANDES FILHO, 2003). The results for the dermatoglyphia were: (A) 0.5 ± 1.17; (L) 6.5 ± 2.44; (W) 3.0 ± 3.42; (D10) 12.7 ±3.42; and (SQTL) 127.3 ± 40.91. The percentages of digital formulas found were: 9.6% AL; 14.3% ALW; 48% LW; 19% WL. For the QFB, it was found the following results: (FB) 52 ± 11.28; (ABD) 48 ± 12.21; (Burpee) 6.5 ± 0.68. According to these results, it is presented a profile of the jiu-jitsu athletes and their QFB in the analyzed aspects, expecting to contribute in the enlargement of this sport.

Key-words: dermatoglyphia, basic physical qualities, jiu-jitsu

PROFIL DERMATOGLIPHIQUE ET DES QUALITÉS PHYSIQUES DE L'ATHLÈTE DU JIU-JITSU
RÉSUMÉ

La présente étude a eu en tant qu'objectif pour identifier les profils dermatoglyphic et les qualités physiques que les athlètes caractérisent du niveau élevé du jiu-jitsu. Comme échantillon, c'a été employé 27 athlètes de niveau élevé, champions des championnats nationaux, internationaux et casserole-américains. Le groupe a été soumis à une évaluation pour l'identification du profil dermatoglyphic au moyen des empreintes digitales (identification) - selon le protocole de Cummins et de Midlo (1942) - et aux qualités physiques par les essais neuromusculaires, les pousées, les abdominals et le Burpee (FERNANDES FILHO, 2003). Les résultats pour le dermatoglyphia étaient : (a) 0.5 ± 1.17 ; (l) 6.5 ± 2.44 ; (w) 3.0 ± 3.42 ; (D10) 12.7 ±3.42 ; et (SQTL) 127.3 ± 40.91. Les pourcentages des formules numériques trouvées étaient : 9.6% AL ; 14.3% ALW ; 48% LW ; PLAN HORIZONTAL de 19%. Pour le QFB, on l'a trouvé les résultats suivants : (FB) 52 ± 11.28 ; (ABD) 48 ± 12.21 ; (Burpee) 6.5 ± 0.68. Selon ces résultats, il est présenté un profil des athlètes de jiu-jitsu et de leur QFB dans les aspects analysés, comptant contribuer dans l'agrandissement de ce sport.

Mot-clefs: dermatoglifie, qualités physique de base, jiu-jitsu

PERFIL DERMATOGLÍFICO Y DE LAS CALIDADES FÍSICAS BÁSICAS DEL ATLETA DEL JIU-JITSU
RESUMEN

El actual estudio tenía como objetivo a identificar perfiles dermatoglíficos y las calidades físicas que los atletas con alto nivel del jiu-jitsu. Fue utilizado a 27 atletas de colmo como muestra nivele, los campeones de campeonatos nacionales y internacionales. Con el grupo fue hecho una evaluación para la identificación del perfil del dermatoglífico por medio de las huellas digitales - según protocolo de Cummins y Midlo (1942) - y de las calidades físicas por pruebas neuromusculares, flexión de brazo, abdominal y Burpee (hijo de Fernandes, 2003). Las paradas encontradas del resultado el dermatoglifia era: arco (), 0.5 ± 1.17; sujetador (l), 6.5 ± 2.44; verticilo (w), 3.0 ± 3.42; delta del índice (D10), 12.7 ±3.42; e el somatorio cuantitativo de líneas (SQTL), 127.3 ± 40.91. Los porcentajes de fórmulas digitales encontrados habían sido: 9.AL del 6%; 14.el 3% ALW; el 48% LW; el 19% WL. Para el QFB habían sido encontrados resultados de siguiente: (FB) 52 ± 11.28; (ABD) 48 ± 12.21; (Burpee) 6.5 ± 0.68. Con la base en estos resultados, el perfil de los atletas del jiu-jitsu e se presenta de su QFB, en los aspectos analizados, esperando contribuir para ampliación del deporte.

Palabras-llaves: dermatoglifia, calidades físicas básicas, jiu-jitsu

PERFIL DERMATOGLÍFICO E DAS QUALIDADES FÍSICAS BÁSICAS DE ATLETAS DE JIU-JITSU
RESUMO

O presente estudo teve como objetivo identificar os perfis dermatoglíficos e as qualidades físicas que caracterizam os atletas de alto nível do jiu-jitsu. Foram utilizados como amostra 27 atletas de alto nível, campeões de campeonatos nacionais, internacionais e pan-americanos. O grupo foi submetido a uma avaliação para identificação do perfil dermatoglífico por meio das impressões digitais (ID) segundo o protocolo de Cummins e Midlo (1943) e das qualidades físicas através de testes neuromusculares, flexão de braço, abdominal e Burpee (Fernandes Filho, 2003). O resultado encontrado para a dermatoglifia foi: arco (A), 5%; presilha (L), 65%; verticilo (W), 30%; índice delta (D10), 12.7 ±3.42; e o somatório quantitativo de linhas (SQTL), 127.3 ± 40.91. Os percentuais das fórmulas digitais encontrados foram: 9.6% AL; 14.3% ALW; 48% LW; 19% WL. Para as QFB foram encontrados os seguintes resultados: (FB) 52 ± 11.28; (ABD) 48 ± 12.21; (Burpee) 6.5 ± 0.68. Com base nesses resultados, apresenta-se o perfil dos atletas de jiu-jitsu e das suas QFB, nos aspectos analisados, esperando-se contribuir para o engrandecimento do esporte.

Palavras-chaves: dermatoglifia, qualidades físicas básicas, jiu-jitsu.