103 - PROFILE OF THE PHYSICAL QUALITIES AND DERMATOGLYPHIC INDEXES OF RUFFONI JUDO TEAM FROM 9 TO 14 YEARS OLD

SIMONE BERTO DA COSTA [1]
RICARDO RUFFONI [1,2]
1 - Centro Universitário Celso Lisboa, RJ, Brasil.
2 - Faculdade de Motricidade Humana, Lisboa, Portugal.
Simoneberto@gmail.com

INTRODUCTION

Man wasn't born jumping or playing. All these corporal activities were created in certain historical period as an answer to certain motivations, challenges or human needs (GONÇALVES et al, 2002).

In order to survive and to assure its subsistence, man was constantly exercising itself. In this way, he has learned naturally to hunt, to fish, to swim, to construct, to fight, to defend itself these are useful exercises which took to satisfy his main necessities, imposed in his relation with the nature and with the other men. (GONÇALVES et al, 2002).

Besides being used as a defensive form for the survival, the fights were also used to defend the home against enemies that tried to take possession of the ones land.

Judo, a traditional Japanese fight, was stemmed partially from Jiu-Jitsu and consists of two words, “Ju” that means soft and “Do” that means path. It was created in Japan on 1882 by the Jigoro Kano master, who was a great studious and studied Jiu-Jitsu techniques and encoded its rules to create a spot that could bring benefits for men, emphasizing the philosophic principles of Judo, eliminating the Jiu-Jitsu dangerous parts and the more violent and traumatic blows, based on “minimum effort with maximum efficient” principle, developing what we call Judo Kodokan (LORENZETT, 2005).

Even though many changes and adaptation had been made so that it was not a violent sport, its basic principle is the body-to-body contact and needs a high physical and mental vigor of the participants, even more if the subject is the performance, or even for those who want a personal fulfillment, an overcoming, as it is an auto-approval form, knowing yourself and latter licking your opponents (LONRENZETT, 2005).

Judo, like other sports, is occupying its space and little by little is showing up a great expansion. In view of this evolution, it has become commoner the seeking for the sportive performance. Nowadays it is usual to see teachers and trainers seeking for sport talents, and to make it easier to find them, they make use of tests and evaluations so that the sport physical qualities can be determined and a greater chance of success can be achieved. (SILVA *et al*, 2003)

Physical assessment is a process in which making use of measurements, one can express and compare criteria in a subjective or objective way (CARNAVAL, 1998). It shall be made in each physical quality which lately will be developed in the training program.

According to Silva *et al* (2003), besides being an important tool to determine the degree and/or level of a certain physical quality, the assessment can and shall be used also for other aims. The results achieved with the assessment can be used as a basis for the exercise prescriptions and adequate training, to determine the conditions and limitation of the student in relation to the different conditioning parameters and to verify if the student can reach the objective expected by the program, and others.

There is another methodology based on the assessment of the dermatoglyphic profile of the fingers. Dermatoglyphics is a method that allows us to obtain information of the genetic potential of the person, by means of the fingerprints analysis (LONRENZETT, 2005).

According to Fernandes Filho (1997), the analysis of the dermatoglyphic index of the fingers is a confident technique for new sport talent seeking.

According to Lorenzett (2005), from the analysis of the acquired information by means of the assessment and cited tests, it can be said that the athlete can be directed to certain sport with more accuracy, making it possible to optimize the development of sportive talent.

OBJECTIVE

To identify the physical qualities and the dermatoglyphic indexes of Ruffoni Judo Team from 9 to 14 years old.

JUSTIFICATION

The study is justified by the need and the importance of making an adequate planning of the training, accordingly to the athlete conditions and the development level of certain physical quality of the athlete. Knowing such information, the training can bring better results not only for the teacher, but also to the athlete, since the teacher with possession of these test results can have a greater knowledge of the developing level of their student physical qualities, making it easier to train aiming the improvement of their individual limitations.

METHODOLOGY

The study was based on a descriptive research. According to Thomas and Nelson (2002), the descriptive research is a kind of research which worries about the status and its value is based on the analysis and objective and complete description.

The method that will be used on the study will be the normative survey. This is a method which involves the establishment of standard for capacities, beliefs and attitudes. The researcher selects the most appropriate tests to measure the performance or the desired capacities (THOMAS e NELSON, 2002).

The sample was comprised of twenty athletes of the masculine gender which practice Judo on the childlike category of Ruffoni Judo Team, between 9 to 14 years old.

The research was performed in four stages, all of them during the Judo classes at Casa Vila da Feira, the place where the Ruffoni Judo Team trainings take place.

On the first stage, it was performed a test with fourteen Judo practitioners for the determination of the following physical qualities: dynamic equilibrium, motive coordination and agility. The protocols used to measure the above physical qualities were: the Ozeretzki test, to determine the dynamic equilibrium; the Burpee test, proposed by Johnson & Nelson (1979); and the Shuttle-Run, also proposed bye Johnson & Nelson (1979).

On the second stage, the dematoglyphics indexes of the fingers of the athletes were assessed. In this stage, eight children fingerprints were collected. The chosen protocol for the identification of the dematoglyphic profile was the Cummins & Midlo (1942) one.

On the third stage of the research, the tests for the evaluation of the dynamic equilibrium, motive coordination and agility were performed again with other six students, and also the collection of the fingerprints of twelve athletes.

On the fourth and last stage the vertical impulsion test was performed to evaluate the explosive strength of the lower members on vertical plane. The test was performed with twenty students and was applied according to Johnson & Nelson (1979).

RESULTS AND DISCUSSIONS

For the result analysis, the sample was split into two groups (9 to 11 years old, and 12 to 14 years old) once the level of sexual maturation of the participants can influence on the results of the applied tests.

Tables 1 and 2 below show the mean (), standard deviation (s) and the minimum and maximum values of each physical quality studied.

Table 1: Mean, standard deviation and minimum and maximum values of the physical qualities of the students between 9 and 11 years old.

	Dynamic Equilibrium	Coordination	Agility (sec)	Explosive Strength (cm)
n	10	10	10	10
$\bar{x}$	1.6	3.90	12.18	23.20
s	0.52	0.88	1.09	3.19
Minimum	1	2	10.90	20
Maximum	2	5	14.81	28

Table 2: Mean, standard deviation and minimum and maximum values of the physical qualities of the students between 12 and 41 years old.

	Dynamic Equilibrium	Coordination	Agility (sec)	Explosive Strength (cm)
n	10	10	10	10
$\bar{x}$	1.8	4.10	11.07	32.20
s	0.42	0.57	0.52	7.28
Minimum	1	3	9.98	25
Maximum	2	5	11.96	46

It can be seen by means of the results that the variables vertical impulsion (lower members explosive strength) as well as agility showed a significant increasing according to the age increasing and consequently the sexual maturation.

In order to evaluate the lower members explosive strength, Duarte (1984) has made a study where male and female children, with mean age of 11 years, who practice capoeira were evaluated and obtained the mean value of 23.42 cm. Using the same sample, Duarte also performed the Shuttle-Run test to evaluate the level of agility. The obtained mean value was 12.41 sec.

Ferreira *et al* (1990) worked with male teenagers who practice physical activities, aged between 11 and 14 years and obtained the mean value of 30.19 cm for the lower members explosive strength. For the agility test the mean value was 11.23 sec.

The results presented by Duarte and Ferreira *et al* match with the vertical impulsion and agility test ones of this work.

The motive coordination evaluated by means of Burpee test also shows a slight increase according to the greater level of sexual maturation, and so on to the dynamic equilibrium.

Macedo (2003) evaluated in his study, the motive coordination level in children aged between 9 and 14 years who practice Futsal. He obtained 4.20 0;89 as result for people who were at the first level of maturation, according to Tanner. The ones from the second level of maturation showed value of 4.47 0.80, and the students from the third level of maturation showed the value of 4.50 0.65.

With regard to the dermatoglyphics characteristics, the tables 3 and 4 show the values for the groups from 9 to 11 years old and 12 to 14 years old, respectively.

The values correspond to the mean, standard deviation and minimum and maximum values with respect to the drawing types Arc (A), Fastener (L), Verticilo (W), Summation of the Total Line Amount (SQTL) and Delta Index (D10).

Table 3: Mean values and its derived ones for the A, L, W, D10 and SQTL drawing types of the students aged between 9 and 11 years

	A	L	W	D10	SQTL
n	10	10	10	10	10
$\bar{x}$	0,8	7,9	1,3	10,5	123,1
s	1,1	1,3	1,3	2,1	28,1
Mínimo	0	6	0	8	74
Máximo	3	10	4	14	170

According to the results showed by the fingerprints characteristics, the group presents a predisposition to the velocity and explosion, observed by the presence of L = 7.9 and confirmed by SQTL = 123.1 and the formula L > W = 100%, and a reasonable predisposition to the motive coordination, with D10 = 10.5. Fingerprint Formulae: ALW = 20%; 10L = 10%; L>W = 100%; L>A = 100%; W>A = 50%.

Table 4: Mean values and its derived ones for the A, L, W, D10 and SQTL drawing types of the students aged between 12 and 14 years

	A	L	W	D10	SQTL
n	10	10	10	10	10
$\bar{x}$	1,4	7,2	1,4	10	96,4
s	2,6	2,4	1,3	3,4	34,3
Mínimo	0	2	0	2	23
Máximo	8	10	3	13	143

The results of the fingerprints characteristics show that this group also presents predisposition to the velocity and explosion, observed by the presence of the L = 7.2 and confirmed by the SQTL = 96.4 and the formula L > W = 100% and a reasonable predisposition to the motive coordination, with D10 = 10.

CONCLUSION

From the accomplished results in this study, it can be concluded that the observed characteristics by means of the fingerprints analysis is related to the results obtained from the applied motive tests.

Arutiohian (1988) apud Ferreira (2004) reported that the equilibrium is related to the small amount of lines, according to the result of the tested group. And also due to the amount of lines, Guba & Tchernova (1995) apud Ferreira (2004) reported that as smaller the amount of lines, greater is the velocity and strength. Our data can match with this affirmation, as the group of students aged between 12 and 14 years presented smaller amount of lines in relation to the one aged between 9 and 11 years, and a greater mean value for the strength and agility levels.

Regarding the motive coordination, both evaluated group had similar results what characterized the motive coordination level as moderate by means of the values D10 = 10.5 and D10 = 10. It can be justified by the increasing in the height and the weight, which sometimes lead to an accentuate worsening on the weight-strength proportion, and can lead to a decreasing on the coordinative capacity. In the case there was no decreasing, however the results remained constant, what shows that there was no improvement on the motive coordination according to the greater degree of maturation from Tanner, differently from the strength quality.

The evaluated people showed the predominance of Fastener (= 76%) in the fingerprints, followed by the Verticilo (= 13%) and the Arc (= 11%). This result presents similarity with the study performed in 2004 with Judo athletes of the childlike category. The athletes demonstrated to have also the predominance of Fastener (= 78%), followed by Verticilo (= 21%) and lastly the Arc (=1%). The data related to the Delta Index (D10) and the Summation of the Total Line Amount (SQTL) also had similarity. The Judo athletes which participated of the study in 2004 presented the following values: D10 = 12.10 and SQTL = 118.60. The Ruffoni Judo Team got D10 = 10.25 e SQTL = 109.75.

Finally, it can be seen with these results that the Ruffoni Judo Team students present a predisposition to sports which use velocity and explosive strength as primary physical quality. They are considered important requirement for the practice of Judo, as the other physical qualities evaluated in this study are too.

Hence, in order to have more chances of success on Judo, it is fundamental to have a training very well planned and guided according to the physical qualities specific of the concerned modality allied to the genetic predisposition of the student, so that in this way, however not in a unique way, it is more predictable the determination of the talent and development of the student.

REFERENCES

CARNAVAL, P. E. **Medidas e Avaliação em Ciências do Esporte.** 3ª ed. Rio de Janeiro: Sprint, 1998.

FERNANDES FILHO, J. **Impressões dermatoglíficas - marcas genéticas na seleção dos tipos de esporte e lutas (a exemplo de desportista do Brasil).** Tese de Doutorado. Moscou: 1997.

FERREIRA, A. A. M. **Perfil dermatoglifico, somatotipico e das qualidades físicas de atletas brasileiros de corrida de orientação de alto rendimento.** Rio de Janeiro, 2004. Disponível em: <http://www.cbo.org.br/site/comissao_ cientifica/ Mestrado/DMCOAAF .doc>. Acesso em: 25 set. 2007.

GONÇALVES, M. C. *et al*. **Aprendendo a Educação Física.** Curitiba: Bolsa Nacional do Livro, 2002.

LORENZETT, E. L., KALININE, I. **Determinação das Peculiaridades tipológicas básicas do sistema nervoso central e índices dermatoglíficas nos atletas do judô.** Concórdia. Universidade do Contestado UnC, 2005. Disponível em: <http://www.judobrasil.com.br/2005/ddptb.pdf>. Acesso em: 10 set. 2007.

MACEDO, M. M. **Identificação das Características Dermatoglíficas, Somatotípicas e das Qualidades Físicas básicas das Crianças de 9 a 14 anos de acordo com os diferentes níveis de Maturação Sexual.** Projeto de Dissertação de Mestrado em Ciências da Motricidade Humana. Rio de Janeiro: UCB, 2003.

SILVA, L. R. R. da., BOHME, M. T. S., UEZU, R., et. al. A utilização de variáveis cineantropométricas no processo de detecção, seleção e promoção de talentos no voleibol. **Revista Brasileira de Ciências e Movimento.** Brasília, v. 11, n. 1, p. 69-76, jan. 2003. Disponível em: http://www.ucb.br/Mestradoef/RBCM/11/11%20-%201/c_11_1_10.pdf. Acesso em: 23 abril 2007.

THOMAS, J. R.; NELSON, J. K. **Métodos de Pesquisa em Atividade Física.** Porto Alegre: Artmed, 3ª edição, 2002.

Rua Frei Fabiano, nº 106 aptº 304. Engenho Novo. Rio de Janeiro – RJ. Brasil. CEP: 20780-120.
Telefone: (21) 2201-1354
E-mail: simoneberto@gmail.com

PROFILE OF THE PHYSICAL QUALITIES AND DERMATOGLYPHIC INDEXES OF RUFFONI JUDO TEAM FROM 9 TO 14 YEARS OLD

ABSTRACT:

The objective of this study was to identify the profile of the physical qualities and dermatoglyphic indexes of Ruffoni Judo Team, from 9 to 14 years old. The study was performed by means of motive tests based on highly regarded protocols. The aim of this study is to evaluate the following physical qualities: dynamic equilibrium, motive co-ordination, agility and explosive strength. The group also went through an evaluation to identify the dermatoglyphic profile, by means of fingerprints. The sample was composed of 20 athletes of masculine gender who practice judo on Ruffoni Judo Team from 9 to 14 years old. The results found for physical qualities of the athletes from 9 to 11 years old were: Dynamic Equilibrium: 1,6 ± 0,52, Motor coordination: 3,90 ± 0,88, Agility: 12,18 ± 1,09 and Explosive Strength: 23,20 ± 3,19. The students from 12 to 14 years old presented the following values: Dynamic Equilibrium: 1,8 ± 0,42, Co-ordination: 4,10 ± 0,57, Agility: 11,07 ± 0,52 and Explosive Strength: 32,20 ± 7,28. The dermatoglyphic features found in the group from 9 to 11 years old were the following: Arc (A): 0,8 ± 1,1, Fastener (L): 7,9 ± 1,3, Verticilo (W): 1,3 ± 1,3, Delta Index (D10): 10,5 ± 2,1 and Summation of the Total Line Amount (SQTL): 123,1 ± 28,1. For the students of 12 to 14 years old, the following indexes were obtained: Arc (A): 1,4 ± 2,6, Fastener (L): 7,2 ± 2,4, Verticilo (W): 1,4 ± 1,3, Delta Index (D10): 10 ± 3,4, Summation of the Total Line Amount (SQTL): 96,4 ± 34,3. These results indicate that the students of Ruffoni Judo Team present a predisposition to physical qualities of speed and explosive strength, features that shall be explored in a way that they can have more chances of success in judo.

Keywords: dermatoglyphics, physical qualities, judo.

PROFIL DES QUALITÉS PHYSIQUES ET INDICES DERMATOGLIPHIQUES DE L'ÉQUIPE RUFFONI DE JUDO COMPRENANT LES ÂGES DE 9 À 14 ANS

RÉSUMÉ:

Ce travail a eu pour but d'identifier le profil des qualités physiques et les indices dermatogliphiques de l'Équipe Ruffoni de Judo comprenant les âges de 9 ans à 14 ans. L'étude a été menée à travers les tests moteurs fondés sur des protocoles réputés ayant pour objectif d'évaluer les qualités physiques suivantes: équilibre dynamique, coordination motrice, agilité et force explosive. Le groupe a été soumis à une évaluation pour l'identification du profil dermatogliphique, à travers les empreintes digitales. L'échantillon a été composé par 20 athlètes du sexe masculin qui pratiquent le Judo dans l´équipe Ruffoni de Judo, comprenant les âges de 9 à 14 ans. Le résultat constaté par rapport aux qualités physiques des élèves de 9 à 11 expose: Équilibre dynamique: 1,6 ± 0,52, Coordination motrice: 3,90 ± 0,88, Agilité: 12,18 ± 1,09 et force explosive: 23,20 ± 3,19. Les élèves comprenant les âges de 12 à 14 ans ont présenté les valeurs suivantes: Équilibre dynamique: 1,8 ± 0,42, Coordination motrice: 4,10 ± 0,57, Agilité: 11,07 ± 0,52 et Force explosive: 32,20 ± 7,28. Les caractéristiques dermatogliphiques constatées dans le groupe des éléves de 9 et 11 ans exposent: Arc (A): 0,8 ± 1,1; Presilha (L): 7,9 ± 1,3, Verticilo (W): 1,3 ± 1,3; Indice Delta (D10): 10,5 ± 2,1 et Somme de la quantité totale de lignes (SQTL): 123,1 ± 28,1. Par rapport aux élèves de 12 à 14 ans, on a constaté les indices suivants: Arc (A): 1,4 ± 2,6, Presilha (L): 7,2 ± 2,4, Verticilo (W): 1,4 ± 1,3, Indice Delta (D10): 10 ± 3,4, Somme de la quantité totale de lignes (SQTL): 96,4 ± 34,3. Ces résultats montrent que les élèves le l'Équipe Ruffoni de Judo présentent une prédisposition aux qualités physiques vitesse et force explosive, qui sont des caractéristiques qui doivent être perfectionnées afin qu'on obtienne plus de chance pour réussir dans le judo.

Mots-clés: dermatogliphie, qualités physiques, judo.

PERFIL DE LAS CUALIDADES FÍSICAS Y LOS ÍNDICES DERMATOGLÍFICOS DE LA EQUIPE RUFFONI DE JUDO EN LA FAJA DE EDAD DE 9 A 14 AÑOS

RESUMEN:

Este trabajo tuvo como finalidad identificar el perfil de las cualidades físicas y los índices dermatoglíficos de la Equipe Ruffoni de Judo en la faja de edad de 9 a 14 años. El estudio fue basado en una pesquisa tipo descriptiva, y fue hecho por medio de testes motores basados en protocolos conceptuados y tuvo el intuito de evaluar las siguientes cualidades físicas: equilibrio dinámico, coordinación motora, agilidad y fuerza explosiva. El grupo también fue sometido a una evaluación para identificación del perfil dermatoglífico, por medio de las impresiones digitales. El representativo fue compuesto por 20 atletas del sexo masculino, practicantes de Judo en la categoría infantil de la Equipe Ruffoni de Judo, comprendidos entre la faja de edad de 9 a 14 años. El resultado encontrado para las cualidades físicas de los alumnos entre 9 y 11 años fueran: Equilibrio Dinámico: 1,6 ± 0,52, Coordinación: 3,90 ± 0,88, Agilidad: 12,18 ± 1,09 y Fuerza Explosiva: 23,20 ± 3,19. Los alumnos comprendidos entre la faja de edad de 12 a 14 años presentaran los siguientes valores: Equilibrio Dinámico: 1,8 ± 0,42, Coordinación: 4,10 ± 0,57, Agilidad: 11,07 ± 0,52 y Fuerza explosiva: 32,20 ± 7,28. Las características dermatoglíficas encontradas en el grupo de alumnos entre 9 y 11 años fueran las siguientes: Arco (A): 0,8 ± 1,1, Presilla (L): 7,9 ± 1,3, Verticilo (W): 1,3 ± 1,3, Índice Delta (D10): 10,5 ± 2,1 e Totalidad de la cuantidad total de líneas (SQTL): 123,1 ± 28,1. Para los alumnos de 12 a 14 anos fueran obtenidos los siguientes índices: Arco (A): 1,4 ± 2,6, Presilla (L): 7,2 ± 2,4, Verticilo (W): 1,4 ± 1,3, Índice Delta (D10): 10 ± 3,4, Totalidad de la cuantidad total de líneas (SQTL): 96,4 ± 34,3. Estos resultados indican que los alumnos de la Equipe Ruffoni de Judo presentan una predisposición en las cualidades físicas velocidad y fuerza explosiva, características estas que deben ser trabajadas con el intuito de se obtener mayores oportunidades de alcanzar suceso en el judo.

Palabras-llave: dermatoglifia, cualidades físicas, judo.

PERFIL DAS QUALIDADES FÍSICAS E ÍNDICES DERMATOGLÍFICOS DA EQUIPE RUFFONI DE JUDÔ NA FAIXA ETÁRIA DE 9 A 14 ANOS

RESUMO:

Este trabalho teve como objetivo identificar o perfil das qualidades físicas e índices dermatoglíficos da Equipe Ruffoni de Judô na faixa etária de 9 a 14 anos. O estudo foi realizado através de testes motores baseados em protocolos conceituados com o intuito de avaliar as seguintes qualidades físicas: equilíbrio dinâmico, coordenação motora, agilidade e força explosiva. O grupo também foi submetido a uma avaliação para identificação do perfil dermatoglífico, através de impressões digitais. A amostra foi composta por 20 atletas do sexo masculino, praticantes de Judô na Equipe Ruffoni de Judô, compreendidos entre a faixa etária de 9 a 14 anos. Os resultados encontrados para as qualidades físicas dos alunos entre 9 e 11 anos foram: Equilíbrio Dinâmico: 1,6 ± 0,52, Coordenação: 3,90 ± 0,88, Agilidade: 12,18 ± 1,09 e Força Explosiva: 23,20 ± 3,19. Os alunos compreendidos entre a faixa etária de 12 a 14 anos apresentaram os seguintes valores: Equilíbrio Dinâmico: 1,8 ± 0,42, Coordenação: 4,10 ± 0,57, Agilidade: 11,07 ± 0,52 e Força explosiva: 32,20 ± 7,28. As características dermatoglíficas encontradas no grupo de alunos entre 9 e 11 anos foram: Arco (A): 0,8 ± 1,1, Presilha (L): 7,9 ± 1,3, Verticilo (W): 1,3 ± 1,3, Índice Delta (D10): 10,5 ± 2,1 e Somatório da quantidade total de linhas (SQTL): 123,1 ± 28,1. Para os alunos de 12 a 14 anos foram obtidos os seguintes índices: Arco (A): 1,4 ± 2,6, Presilha (L): 7,2 ± 2,4, Verticilo (W): 1,4 ± 1,3, Índice Delta (D10): 10 ± 3,4, Somatório da quantidade total de linhas (SQTL): 96,4 ± 34,3. Estes resultados indicam que os alunos da Equipe Ruffoni de Judô apresentam uma predisposição às qualidades físicas velocidade e força explosiva, características estas que devem ser trabalhadas a fim de se obter maiores chances de alcançar sucesso no judô.

Palavras-chave: dermatoglifia, qualidades físicas, judô.