48 - IDENTIFICATION OF DERMATOGLIFIA DIGITAL PROFILES IN CONCÓRDIA CITY - SC

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INTRODUCTION

The indices of dermatoglifia digital have been used for a long time in criminology and in medicine (CAMPBELL, 1998; BOGDANOV & ABRAMOVA, 1998) to diagnose the problems of behavior deviation and health problems, determined by genetic.

It has appeared many works about the possibility in using dermatoglifia digital profiles in looking for methodologies and selection of talents in sports last decade. (ABRAMOVA *et al*, 1995; BOGDANOV & ABRAMOVA, 1998; FERNANDES FILHO & ABRAMOVA, 1999). The results of the research, realized by these researches at National Selection of Russia and of Brazil showed that the athletes that practice different sports modalities have the indices of dermatoglifia fingerprint also different. The athletes, practitioners of sports modalities that demand speed and explosive force have kinds of fingerprints drawings at fingertips of the fingers of the hands simpler and minor quantity of fingerprint lines of skin inside the drawings. The kind of drawings at fingertips in fingers of the hands are more complicated with more quantity of fingerprints lines of skin inside the drawing characterized the athletes of sport modalities that demand a complicated coordination of the movements. The intermediate position by these indices occupy the athletes of the modalities of resistance and static stability. At sport games the same tendency is present: as much complicated the player function at sport field, much more complicated the drawings, and with much more quantities of fingerprint inside the drawing at fingertips of the fingers of the hands they have. The most used aspect to this purpose is the Protocolo of CUMMINS & MILDO (1942). Next, it is necessary to be identified the dermatoglificos indices following:

a) The kind of drawing in kind of drawing at fingertips on fingers of the hands.
- Simple Arch (A) is the drawing without deltas (Veja Fig.1);
- Loop (L) is the drawing of a delta (Veja Fig.1);
- Spiral or Schell Worhl (W) is the drawing of two deltas (Veja Fig.1);
- Quantity of drawing of this kind in ten fingers of the hands;
- Complexity of the drawing in ten fingers of the hands (D10), calculated by equation: D10 = L + 2W, where the Simple Arch (A) values 0 points and so it isn´t present in the equation, the Loop (L) values 1 point and the Spiral or Schell Worhl (W) values 2 points.

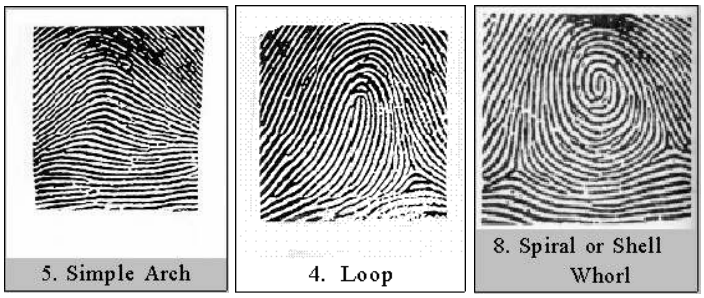


FIGURE 1

b) The quantity of lines (QL), that is the quantity of fingerprint lines of skin, inside the drawing. It needs to be counted by the second line that connect delta and the center of the drawing, without take in consideration the first and the last fingerprint line. In QL base of all the fingers of the hands need to be calculated the SQTL that is the total added of quantity of lines in ten fingers of the hands.

c) The percentage of kind of fingerprint formulas following:
- AL is the presence of the Simple Arch and Loop in any combination;
- ALW is the presence of the Simple Arch, Loop and Spiral or Schell Worhl in any combination;
- 10L is the presence of ten Loops;
- LW is the presence of Loop and Spiral or Schell Worhl with the contrast with the condition of the number of presilhas are bigger or equal to five;
- WL is the presence of Spiral or Schell Worhl and Loop with the codition that the number os ventricilos are bigger than five;

However, to use that methodology with more accuracy, it is necessary to know the dermatoglifia digital profile of the population where it is realized the finding talents. The researches realized show that the dermatoglifia digital profile is different, not only in population of different continents, but also in distant regions of a country. (BOGDANOV & ABRAMOVA, 1998; BALACOVSCAIA, 2005). At researched bibliography we didn´t find any work with the same kind realized in Brazil.

The purpose of this research is to identify the dermatoglifia digital profile of the Concórdia SC population.

METHODOLOGY

The sample of the research was composed by 342 students from both sex of the third year at a high school in Concórdia city SC Brazil (142 males and 200 females students), they corresponded at about 80% of the students of these age group of the city. This sample was considered as a representative of Concórdia population. The dermatoglifia digital protocolo chosen to identify the profile was the Protocolo of Dermatoglifia Digital, by CUMMINS & MILDO (1942), that is presented in the introduction of this article.

To detect the kind of drawings at fingertips on fingers of the hands it was used the visual identification method and it was not evaluated the indices SQTL. This method was chosen for the following reasons:

a) The reason of the identification of the dermatoglifia digital profile through fingerprint
and counting after that the quantity of fingerprint lines of skin inside the drawing, to identify the value of the index SQTL, it becomes slower and tiring in big samples;

b) The correlative analyze of the results of the identification of kinds of drawings at
fingertips of fingers of the hands, realized by fingerprint method and by visual identification method at the sample of

27 people, resulted the correlation r=1,0;

c) The correlative analyze of the dermatoglíficas indices, of the results of the researches already realized and presented by ABRAMOVA *et. al.*(1995) and FERNANDES FILHO (2003) showed the correlation between indices SQTL and D10, **r** = 0,95; p<0,01. It means that by these indices it treats the same phenomenon.

RESULTS AND DISCUSSION

TABLE 1 The results of the identification of the kinds of drawings in fingertips of fingers of the with Concórdia population and its comparative analysis between female and male sex .

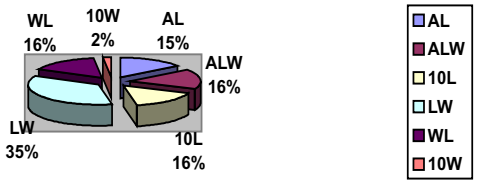
Kind of drawings	Male		Female		$\Delta X = \overline{X}m - \overline{X}f$	$\frac{\Delta X\ 100\%}{\overline{X}f}$
	$\overline{X}m$	Sm	$\overline{X}f$	Sf		
	n = 142		n = 200			
A	0,84	1,6	0,87	1,64	- 0,03	- 3,4%
L	6,3	2,91	6,84	2,47	- 0,54**	- 7,9%**
W	2,87	2,98	2,31	2,5	0,56**	24,2%**
D10	12,0	3,8	11,4	3,42	0,6*	5,3%*

Ps.: the data marked with (*) are reliable, p < 0,1;
The data marked with (**) are reliable, p < 0,05.

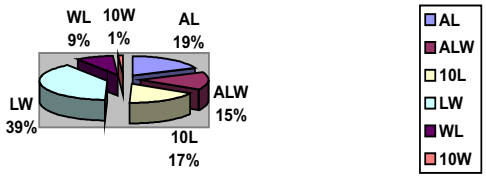
The data of the Table 1 present the distribution of the kinds of drawing in fingertips of hands fingers of Concórdia population and show that the people of different sex have the different distribution of the drawing kinds.

The female people, on average, have the biggest number of drawing kind Loop at the fingertips on fingers of the hands (7,9%, p < 0,05) and the male people , on average, have the o biggest number of drawings kind Spiral or Schell Worhl at fingertips on fingers of the hands (24,2%, p < 0,05) and the biggest index of D10 (5,3%, p < 0,1). The difference in numbers of drawings kind Simple Arch at fingertips on fingers of the hands of people from both male and female are not significant (p>0,1).

FIGURA 2 - Distribution of digitalis formulas of male population of Concórdia - SC



FUGURE 3 - Distribution of digitalis formulas of femalhe population of Concórdia - SC



The data of Figures 2 and 3 present the kinds of digitalis formulas of Concórdia population. To male, digital formula is AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2% and to female, digital formula is AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1%. The same data also show that the male and female population of the sample have different values of the formulas. The female has the best percentage at digitalis formulas: AL, 10L e LW and male people have the biggest percentage at digitalis formulas: ALW, WL and 10W.

CONCLUSION

In this research, it was founded the dermatoglifia digital profile of Concórdia population, the following:

Female: A=0,87±1,64; L=6,84±2,47; W=2,31±2,5; D10=11,4±3,42; AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1%;

Male: A=0,84±1,6; L=6,3±2,91; W=2,87±2,98; D10=12,0±3,8; AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2%.

It was also detected the female and the male in Concórdia population have the distribution of kinds of drawings at fingertips on fingers of the hands and the values of the digitalis formulas are different.

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IDENTIFICATION OF DERMATOGLIFIA DIGITAL PROFILES IN CONCÓRDIA CITY - SC

ABSTRACT

The indices of dermatoglifia digital have been used for a long time in criminology and in medicine to diagnose the problems of behavior deviation and health problems, determined by genetic. It has appeared many works about the possibility

in using dermatoglifia digital profiles in looking for methodologies and selection of talents in sports last decade. Thinking about using these methodologies with more precision it is necessary to know the dermatoglifia digital profile of the population, where it will be realized the talents findings. The research already carried through, not only shows that the dermatoglifia digital profile is different in population of different continents, but also in distant regions of a country. In Brazilian bibliography researched we didn´t find any work with the same kind. The purpose of the research was to identify the dermatoglifia digital profile in Concórdia SC population. The sample of the research was composed by 342 students from both Sex (male and female) of the third year at a high school in Concórdia city SC Brazil (142 males and 200 females students), they corresponded at about 80% of the students of these age group of the city. This sample was considered as a representative of Concórdia population. The dermatoglifia digital protocolo chosen to identify the profile was the Protocolo of Dermatoglifia Digital, by CUMMINS & MILDO (1942). The results of the research showed the following dermatoglifia digital profile of Concórdia population: A=0,87±1,64; L=6,84±2,47; W=2,31±2,5; D10=11,4±3,42; AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1% (female sex), A=0,84±1,6; L=6,3±2,91; W=2,87±2,98; D10=12,0±3,8; AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2% (male sex).

Key words: Profile, Dermatoglifia digital, Population.

IDENTIFICATION DES PROFILS DE DERMATOGLYPHIQUE DIGITAL DE LA POPULATION DE CONCÓRDIA SC

RÉSUMÉ

Les indices de dermatoglyphique digital il y a longtemps déjà , sont utilisés en criminalistique et en médecine pour identifier les problèmes d'écartement comportamental et de santé determinés génétiquement . Dans la dernière décade , ont surgi plusieurs travaux sur la possibilité de l'utilisation des profils de la dermatoglyphique digital dans les méthodologies de recherche et sélection des talents dans le sport . Pour utiliser telles méthodologies avec plus de précision , il faut savoir le profil de dermatoglyphique digital de la population dans laquelle il sera réalisée la recherche de ces talents . Les recherches déjà réalisées ont montré que le profil de dermatoglyphique digital est différent , non seulement dans les populations des différents continents , mais aussi dans les régions plus éloignées d'un pays . Dans la bibliographie recherchée , nous n'avons trouvé aucun travail du même genre réalisé au Brésil . Le but de la recherche a été d'identifier le profil de dermatoglyphique digital de la population de la ville de Concórdia SC . L'amostrage de la recherche a été composé par 342 étudiants des deux sexes de la troisième année de l'Enseignement Moyen de la ville de Concórdia SC Brésil (142 du sexe masculin et 200 du sexe féminin) , qui correspond plus au moins à 80% des étudiants de ce dégré d'âge de la ville . Nous considérons cet amostrage comme représentatif de la population de cette ville . Le protocole choisi pour l'identification du profil de dermatoglyphique digital a été le Protocole de Dermatoglyphique Digital , de CUMMINS & MILDO (1942) . Les résultats de la recherche ont montré le profil de dermatoglyphique digital de la population de la ville de Concórdia:A=0,87±1,64; L=6,84±2,47; W=2,31±2,5; D10=11,4±3,42; AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1% (Sexe féminin), A=0,84±1,6; L=6,3±2,91; W=2,87±2,98; D10=12,0±3,8; AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2% (Sexe masculin).

Mots clef: Profils, Dermatoglyphique digital, Population

IDENTIFICACIÓN DE LOS PERFILES DE DERMATOGLIFIA DIGITAL DE LA POPULACIÓN DE CONCÓRDIA SC

RESUMEN

Hace tiempo que los índices de dermatoglifia digital son utilizados en criminalística y en medicina para diagnosticar los problemas en el desvío del comportamiento y problemas de salud, geneticamente resuelto. En la última década aparecieron muchos trabajos sobre la posibilidad de utilización de los perfiles de dermatoglifia digital en las metodologías de búsqueda y selección de los talentos en el deporte. Para utilizar tales metodologías con mayor precisión es necesário conocer el perfil de dermatoglifia digital de la población, en que será realizada la búsqueda de los talentos. Las investigaciones, ya realizadas, muestran que el perfil de dermatoglifia digital es distinto, no solamente en las populaciones de continentes distintos, pero también en regiones lejas de un país. En la bibliografía investigada nosotros no encontramos ningún trabajo del mismo género, realizado en Brasil. El objetivo de la investigación fue identificar el perfil de dermatoglifia digital de la población de Concórdia SC. La muestra de la investigación fue compuesta por 342 estudiantes de ambos los sexos de tercero año de la Enseñanza Promedia de la ciudad de Concórdia SC - Brasil (142 de sexo masculino y 200 de sexo femenino), que corresponde alrededor de 80 % de los estudiantes de esta faja etária de la ciudad. Consideramos esa muestra como representativa de la población de Concórdia. La acta elegida para identificación del perfil de dermatoglifia digital fue la Acta de Dermatoglifia Digital, de CUMMINS & MILDO (1942). Los resultados de la investigación muestran el siguiente perfil de dermatoglifia digital de la población de Concórdia: A=0,87±1,64; L=6,84±2,47; W=2,31±2,5; D10=11,4±3,42; AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1% (Sexo feminino), A=0,84±1,6; L=6,3±2,91; W=2,87±2,98; D10=12,0±3,8; AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2% (Sexo masculino).

Palabras claves: Perfil, Dermatoglifia digital, Población.

IDENTIFICAÇÃO DOS PERFIS DE DERMATOGLIFIA DIGITAL DA POPULAÇÃO DE CONCÓRDIA SC

RESUMO

Os índices de dermatoglifia digital já há tempo são utilizados em criminalística e em medicina para diagnosticar os problemas no desvio do comportamento e problemas de saúde, determinados geneticamente. Na ultima década apareceram vários trabalhos sobre a possibilidade de utilização dos perfis de dermatoglifia digital nas metodologias de busca e seleção dos talentos no esporte. Para utilizar tais metodologias com maior precisão é necessário saber o perfil de dermatoglifia digital da população, em que será realizada a busca dos talentos. As pesquisas, já realizadas, mostram que o perfil de dermatoglifia digital é diferente, não somente nas populações de continentes diferentes, mas também nas regiões distantes de um país. Na bibliografia pesquisada nós não encontramos nenhum trabalho do mesmo gênero, realizado no Brasil. O objetivo da pesquisa foi identificar o perfil de dermatoglifia digital da população de Concórdia SC. A amostra da pesquisa foi composta por 342 estudantes de ambos os sexos de terceiro ano de Ensino Médio da cidade de Concórdia SC - Brasil (142 de sexo masculino e 200 de sexo feminino), que corresponde em torno de 80 % dos estudantes desta faixa etária da cidade. Consideramos essa amostra como representativa da população de Concórdia. O protocolo escolhido para identificação do perfil de dermatoglifia digital foi o Protocolo de Dermatoglifia Digital, de CUMMINS & MILDO (1942). Os resultados da pesquisa mostraram o seguinte perfil de dermatoglifia digital da população de Concórdia: A=0,87±1,64; L=6,84±2,47; W=2,31±2,5; D10=11,4±3,42; AL=18,5%; ALW=15%; 10L=17%; LW=39,5%; WL=9%; 10W=1% (Sexo feminino), A=0,84±1,6; L=6,3±2,91; W=2,87±2,98; D10=12,0±3,8; AL=14,8%; ALW=16,2%; 10L=15,5%; LW=35,2%; WL=15,5%; 10W=2% (Sexo masculino).

Palavras chave: Perfil, Dermatoglifia digital, População.