173 - CORRELAÇÃO STATISTICS BETWEEN THE MASSES SEGMENTARES CORPORAIS BY STUDIES BIOMECÂNICOS OF BRAUNE-FISCHER AND ZATSIORSKY-SELUYANOV

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01)INTRODUCTION

Knowledge of the human body fascinates the curiosity of scientists who are dedicated to both since the early history. In the specific field of Biomechanical the establishment of the quantitative values of the various parts and organs of our body is content in a series of surveys today. The Biomechanical, while discipline derived from the natural sciences, which deals with the physical analysis of biological systems, therefore, analyzes physical movements of the human body. These movements are studied through laws and standards mechanical according to the particular nature of the human biological system, including anatomical and physiological knowledge (Amadio et al. , 1996).

For Canfield (2001) apud MARCON et al. , (2003), the human movement can be seen in different levels of analysis, based on the understanding of the concept of intentionality and the draft complementalidade.

The term "Biomechanical" was adopted at the beginning of the years 70 with a definition, internationally recognized, the field of study related to the mechanical analysis of living organisms (HALL, 1993 apud MARCON et al. , 2003).

According HAY (1981, p. 13) apud MARCON et al, 2003, "Biomechanical is the science that examines the internal and external forces that act in the body and its effects," and second AVILA (1993), "is an experimental science supporting in the experimental study of the movements, with the aid of suitable instruments that record the quantitative characteristics of the movement as: trajectories, speed, strength and other variables that can distinguish between movements and compare them with each other. " SETTINERI (1988, p. 01 apud MARCON et al 2003), states that "the term Biomecánica the idea that everything that is related to the movements, forces and dynamics of the human body, and its segments."

According BRENZIKOFER (1997) it is good to remember that the creator has not biomechanical. Not that you forget, because it happened to the biology, physics, medicine and all other areas where there has already recognized by society. What was "created" is the universe and nature. Successive divisions into distinct areas of expertise are fruits, or rather sequelae of the difficulties encountered by man in understanding the nature as a whole. The image of the original unit was fragmenting if the measure groups of people were having success in the desire to explain specific aspects of the natural world. The biomechanical is generating "povoando" a new area, between neighboring anatomy, engineering, physiology, physical education, medicine and many others.

Thus, the biomechanics is a highly experimental discipline, and as such dependent processes of measurement. Any research in this area is subject to determination of physical quantities that can be measured. So the physical technique to measure and its application in the human body are a basic part of the relevant methods of work of biomechanics. An important aspect to be considered is the selection of instrumental and the technique of measurement to be used as the determination of quantities to be measures to be undertaken with the accuracy required in case (MOTA et al. , 2000).

02)INTERDISCIPLINARIDADE BETWEEN BIOMECÂNICA AND ANTROPOMETRIA THE HUMAN BODY

The multidisciplinarity in the case of Biomechanical can sometimes be perceived as a problem by natural overlay of knowledge, that not precisely the establishment of limits and boundaries of other scientific disciplines (physics, anatomy, physiology, Ergonomics, Mathematics and others) may establish. This dilemma is typical of all sciences and still belongs to the dynamic structure of progress in scientific knowledge, which has always been seeking from the overlap, a new appearance and / or explanations of phenomena from interdisciplinary problems (Amadio, 2004).

Biomechanical The main goal is to work the human movement, in which "national congresses in some classifications of the areas of concentration of expertise has been adopted, subdivided into: Methodology biomechanics; Biomechanical of human movement; Biomechanical of sports; Biomechanical muscle-skeletal; Biomechanical Tissue and biomaterials; Biomechanical and Rehabilitation; Biomechanical Occupational; Biomechanical Cardio-respiratory and Biomechanical Environmental "(Barros, 2000, p. 90-91), however only a few subdivisions will be relevant to our study.

The movement of segments of the body can be as the complexity of the same, or even taking into account the state of health of the individual, as an exercise of average or even great difficulty of implementation. Understand, therefore, the Biomechanical as a multidisciplinary science with ramifications in a variety of areas is the first step towards the development of research in this science. The Biomechanical is the study of movements and forces, which are mechanical consequence of the relations established and controlled by executante, either with his own body, whether these mechanical relations with the external physical environment (Abrantes, 2001).

Study of anthropometric variables is every day becoming an important tool for monitoring the physical growth, but a complex process because occur several changes and structural changes in the body due to the phase of growth (TRIBESS et al. , 2003).

To VELHO, and LOUREIRO PERES (1993) apud TRIBESS, et al. (2003), the Anthropometry serves to objective determination of the issues relating to human development, as well as to determine the relationship between physical and performance.

The antropometria defined as a "technique to quantitatively express the shape of the body" TANNER (1986) apud LAAT, et al. (2001), or is the activity or practice on scientific observation, quantification and analysis of human somatic growth, as one of the reasons for building the normatividade, is clinical, epidemiological is because there is in one of the instruments used in the construction of reference, the necessary standardization of practices of health, and collective or individual.

03)PROCEDURES METODOLOGICS

In the present study we measured the body mass (kg) of a sample composed of 7 persons (4 females and 3 males), setting the tables individual masses segmentares through studies of Braune-Fischer and Zatsiorsky - Seluyanov.

For Braune-Fischer the human body is composed of 8 segments, or Head, Stem, Arm, Ante-Arm, Hand, Coxa, Perna and foot, or 14, considering the duplicity of the last 6 segments.

In studies of Zatsiorsky - Seluyanov the human body is formed by segments Head, Stem total (sub-divided into upper

trunk, trunk and lower trunk average), arm, forearm, hand, thigh, leg and foot, making considering the division of trunk a total of 10 segments, or even 19, considering the duplicity of them for the studies of Braune-Fischer.

It should be noted that for the segment of the body trunk, used the same percentage for men and women in studies of Braune-Fischer, while for Zatsiorsky - Seluianov there is a division of the trunk and the consequent difference in the percentage.

All calculations are made result of numerical proportions of their bodies segmentares and studies in the area of Biostatistics, more precisely the content for Correlation between variables (Correlation of Pearson) and lead to a large number of operations calculations.

Normally all levels of biomechanical evaluation involve human being. Most of the time we see that the assessments are based on visual observation of the athlete. The level of primary assessment uses the direct observation, which requires a very large overhead of manual work (Avila, 2000).

The Correlation between variables or from Pearson Correlation can vary between 0.00% and 100.00%, and classified according to the table shown below:

VALUE OF CORRELAÇÃO	RANKING
0,00 a 19,00	Correlation rather weak
20,00 a 39,00	Weak Correlation
40,00 a 69,00	Correlation moderate
70,00 a 89,00	Strong Correlation
90,00 a 100,00	Correlation very strong

For values greater than 100.00% to approach allows are considered equal to 100.00% and classified according to the above table in a very strong correlation.

04) RESULTS OBTAINED AND CONCLUSIONS

Studies of Braune-Fischer and Zatsiorsky - Seluyanov have a difference when it comes to time of about 50 years, since the first back to the period between first and second world wars large and the second is beginning its work in development for about 15 years.

Unnecessary is the first quote that had great influence in seconds, as the object of the work is the same in both cases, ie the measurement of the human body in its aspects Antropométricos (masses segmentares, lengths segmentares and others) and Biomecânicos (determination of the Center Severity).

In the specific case of this work, were detected differences in measurements and measurements performed, which are described in the spreadsheet below:

Results Matching mathematics in determining the masses segmentares by studies of Braune-Fischer and Zatsiorsky - Seluyanov

Body Segment	Results
Head	All major in the Study of Braune-Fischer
Stem	More Women in Study of Braune-Fischer and Men in the largest study of **Zatsiorsky - Seluyanov**
Arm	All major in the Study of Braune-Fischer
Ante-Arm	All major in the Study of Braune-Fischer
Hand	All major in the Study of Braune-Fischer
Coxa	All major in the Study of Braune-Fischer
Leg	All major in the Study of Braune-Fischer
Foot	All major in the Study of Braune-Fischer

As final conclusion and the results presented in the spreadsheet above realize that all body segments (except the trunk) showed itself in both sexes and in terms of numbers higher in studies of Braune-Fischer, whereas in the case of the segment trunk target mass was greater in the studies of Braune-Fischer for women and men in the largest studies of Zatsiorsky - Seluyanov. This fact probably due by dividing the trunk proposed by the authors in which it is divided into upper trunk, trunk medium and lower trunk and so it takes into account the further development of the upper trunk, anthropometric and biological relevant feature on sex male.

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CORRELAÇÃO STATISTICS BETWEEN THE MASSES SEGMENTARES CORPORAIS BY STUDIES BIOMECÂNICOS OF BRAUNE-FISCHER AND ZATSIORSKY-SELUYANOV

ABSTRACT:

This work objectives demonstrate the difference between the masses segmentares found in studies of Braune-Fischer (BF) and Zatsiorsky and Seluyanov (ZS). Because the studies of BF remontarem the first decades of the twentieth century and studies of ZS have around fifteen years and still are being subject to constant scientific research, our proposal in a sample of 7 persons (4 females and 3 of boys) is to establish the differences by percentage correlation between variables (correlation of Pearson) and check the cientificidade between the two methods of determining the masses segmentares for both sexes.

WORDS KEYS: Segmentary; Biomechanics; Correlation.

CORRELAÇÃO STATISTIQUES ENTRE LES MASSES SEGMENTARES CORPORAIS PAR DES ETUDES BIOMECÂNICOS DE BRAUNE - FISCHER ET ZATSIORSKY - SELUYANOV

RÉSUMÉ:

Ce travail objectifs de démontrer la différence entre les masses segmentares trouvés dans des études de Braune - Fischer (BF) et Zatsiorsky et Seluyanov (ZS). Parce que les études de BF remontarem les premières décennies du XXe siècle, et des études ont ZS autour de quinze ans et sont encore soumis à une recherche scientifique, notre proposition d'un échantillon de 7 personnes (4 femmes et 3 de garçons) est d'établir Les différences en pourcentage de corrélation entre les variables (corrélation de Pearson) et de vérifier l'cientificidade entre les deux méthodes de détermination des masses segmentares pour les deux sexes.

MOTS CLÉS: Segmentary; Biomécanique; Corrélation.

CORRELAÇÃO ESTADÍSTICAS ENTRE LAS MASAS SEGMENTARES CORPORAIS POR ESTUDIOS BIOMECÂNICOS DE BRAUNE - FISCHER Y ZATSIORSKY - SELUYANOV

RESUMEN:

Esta labor objetivos demostrar la diferencia entre las masas segmentares encontrado en los estudios de Braune - Fischer (BF) y Zatsiorsky y Seluyanov (ZS). Debido a que los estudios de BF remontarem las primeras décadas del siglo XX y los estudios de ZS tener alrededor de quince años y todavía están siendo objeto de constantes investigaciones científicas, nuestra propuesta en una muestra de 7 personas (4 mujeres y 3 de varones) es establecer Las diferencias de porcentaje de correlación entre las variables (correlación de Pearson) y marque la cientificidade entre los dos métodos de determinación de las masas segmentares para ambos sexos.

PALABRAS CLAVES: Segmentary; Biomecánica; Correlación.

CORRELAÇÃO ESTATÍSTICA ENTRE AS MASSAS SEGMENTARES CORPORAIS PELOS ESTUDOS BIOMECÂNICOS DE BRAUNE-FISCHER E ZATSIORSKY-SELUYANOV

RESUMO

Este trabalho objetivou demonstrar a diferença entre as massas segmentares encontradas nos estudos de Braune-Fischer (BF) e Zatsiorsky e Seluyanov (ZS). Em virtude os estudos de BF remontarem às primeiras décadas do século XX e os estudos de ZS possuírem em torno de quinze anos e ainda estarem sendo objeto de pesquisa científica constante, nossa proposta em uma amostra de 7 pessoas (4 do sexo feminino e 3 do sexo masculino) é estabelecer as diferenças percentuais pela correlação entre variáveis (correlação de Pearson) e verificar a cientificidade entre os dois métodos de determinação das massas segmentares para ambos os sexos.

PALAVRAS-CHAVE: Segmentos, Biomecânica, Correlação.