94 - COMPARISON OF LEVELS OF MANUALSTRENGTH ON HOLD PRACTITIONERS OF BOXING BEGINNER AND ADVANCED MALE BETWEEN 18 AND 28 YEARS.

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INTRODUCTION

Through the influence of media, such as novels, films and TV programs, the search for modalities such as BOXING, MIX MARTIAL ARTS – MMA, JIU JITSU, MUAY THAI and the academies are increasing more and more, as well as the number of people interested in these modalities with or without experience. As Fett (2009) "The search for these sports has been going on for two reasons or the practice of a physical activity or the pursuit of a result more specialized and competitive performance in this case.

In rooms where these modes arises a concern because of the different characteristics of the subjects (physical activity and competition) the lack of familiarity and adaptation to different practices that can provide different answers states and muscle-joint.

Among the methods mentioned, was chosen by the Boxing very sought be a modality in the academies and for the exclusive use of fists characteristic. Because it is an activity that is directly related to the constant use of fists, its practitioners tend to be subject to very different types of lesions in this region. It is very common, so finding practitioners complaining of pain in the aforementioned regions.

Boxing has features that go back historically, " around the year 4000 BC, in what is now called Ethiopia, the African continent, from where it spread to Ancient Egypt and eventually to the whole Mediterranean area " (FLORES JR., 2001, p.9) and nowadays still calls people's attention to the possibility of being an activity that allows the improvement of physical fitness amongst other benefits.

Accordingly Oliveira (2002), in a study indicated that physical activity is very important, when properly oriented, thus underlining the preparation of professional prescription of responsible for the training of individuals.

In the same study, Oaks (2000) apud Oliveira (2002) mentions that the physical benefits obtained through regular practice of physical exercise are: increased flexibility, strength, improves breathing capacity, reducing anxiety, stress and depression, increase the physical well-being and psychological, as well as the best overall organic functioning of the individual.

In many sports, as Silva (2006) and Tsuji (1995) apud Borges Jr.et al (2009) hands are used in various situations, with movements of high degree of skill, strength and endurance, which together, allow obtaining a good performance. In this embodiment, the grip strength is a feature very little explored of hand movement. According Fry et al (2006) cited Borges Jr. et al (2009), Considering that many sports use the grip movement in sports, information about this feature is useful to develop specific protocols for strengthening the hands of the athlete and prevent possible injury.

The skeleton of the hand (grip) is divided into three segments, as Dangelo (2005) the first consists of eight bones divided into proximal and distal two rows each with four make up the carpus and the second action comprises the metacarpal and third segment called the skeleton of the fingers, the phalanges.

The carpal bones articulate with each other and remains in the same position by strong ligaments, the proximal row bones found scaphoid, lunate, pyramidal epsiforme presenting convex anterior-posterior and lateral-medial to link up with the radio because the bones of the distal row known as trapezius, trapezoid, capitatoehamato that can be called great bone and unciform, articulated with the proximal row being slightly concave anteriorly and convex posteriorly.

According to Tortora and Grabowski (2002) are many and varied bones and muscles that move the wrist, hand and fingers. Those acts on the fingers are known as extrinsic muscles, because they do not originate in hand, but fall on it. They produce strong but coarse movements of the fingers, as the intrinsic muscles in the palm, producing the faint but intricate and precise finger movements that characterize the human hand, which together are responsible for the movement of grip.

Studies (GUNTHER et al, 2008; INCEL et al, 2002; JARJOUR et al, 1997; FERNANDES and MARINS, 2011) determined the existence of differences in handgrip strength in age groups, genders and dominances different individuals beyond compare healthy and pathologies. From these studies, we became interested in using this method to analyze the practice of boxing in the long run, may increase or decrease the rates of strength manual. Being harmful or questionable results benefits for fists practitioners so that they can be practicing the sport safely, without being put at risk their physical integrity.

This research aimed to determine the levels of handgrip strength in boxing practitioners, beginners and advanced, male, between 18 and 28 years.

MATERIALS AND METHODS

The study model was developed transversal, which was characterized by the observations and measurement of variables of interest that are made simultaneously is also feasible to be fast and inexpensive.

The sample group consisted of 61 males aged between 18 and 28 years and 30 beginners and 31 advanced class participants Boxing premises of a health Joinville - SC at least three times a week. Participants were characterized with beginners (with 6-8 months of practice) and advanced (over one year of practice) and apparently healthy.

The research instruments used were: the standardized protocols for handgrip (FERNANDES FILHO, 2000 pg.189) and girth (FERNANDES FILHO, 2000 pg.96), Body Weight and Height (FERNANDES FILHO, 2000 pg.33-35). The materials used were: Dynamometer Grip Manual Dayhome; Filizola type scale, stadiometer CARDIOMED model PS - 99/TON; tape Cescorf 2m Vonder model.

For the analysis and interpretation of the data was used descriptive statistics with measures of central tendency (mean) and dispersion (standard deviation). Shapiro Wilk test showed normal between the variables investigated, thus opting for parametric tests. The comparison of the samples gave for the test-t-Student's independent samples with confidence level of 95%.

This study seems favorable under number 185/2012 on Ethics in Research UNIVILLE as required by Resolution 196/98 of the National Council of Health - NCN. All subjects signed informed consent after reading the term.

Analysis and Discussion of Data

The values of handgrip strength displayed by athletes differ according to the type, sex, body weight, the level of the athlete, age and type of training. According to Fernandes and Marins (2011) the handgrip must be present in the battery of tests to identify potential sporting talent, especially in sports such as judo, boxing, fencing, sailing, rowing, weight lifting and tennis. Table 1 characterizes the sample subjects.

Table 1 – Characteristics of sample groups between beginner and advanced mode in boxing.

Variable	Beginner (n=30)	Forward (n=31)
Age (years)	23.50±2.70	23.95±3.61
Body weight (Kg)	84.23±15.97	81.42±14.32
Height (cm)	177.20±7.18	176.26±13.95

Source: the survey itself

As Gunther et al (2008) The grip strength is directly related to age, which results in an increase in grip strength with increasing age, which reaches a peak between 25-39 years, and then gradually decreases with increasing age, probably due to loss of muscle mass. Accordingly, it is recommended that the data analysis are performed taking into account the division by age or age group as performed in this study.

Table 2 characterizes subjects according to the object of study: Absolute Power, Relative Strength Index and Fatigue, revealing the values of central tendency (average) and dispersion (standard deviation).

Table 2 – Difference of parameters of force and fatigue index between groups beginner and advanced mode in boxing.

Variable	Beginner (n=30) $\bar{X}$±SD	Forward (n=31) $\bar{X}$±SD	Diff (diff%)	p
F. Absolute Right (Kg)	49.47±9.16	48.68±6.60	-.8(-1.6%)	.70
F. Absolute Left (Kg)	48.25±9.33	47.52±7.77	-.7(-1.5%)	.74
F. Relative Right	1.82±.38	1.81±.48	-.01(-0.5%)	.93
F. Relative Left	1.78±.33	1.76±.45	-.01(-0.8%)	.89
IF% Right	.08±.06	.10±.10	.02(25.0%)	.32
IF% Left	.08±.05	.10±.06	.02(26.0%)	0.13

p<.05 test-t de Student
Diff-absolute difference
(diff%)- relative difference
IF% -Fatigue Index

The data in Table 2 demonstrate the comparative absolute strength right hand group Beginner (G.B) values of 49.47±9.16kg and the advanced group (G.A) obtained values inferiors 48.68±6.60.a difference .8kg of absolute strength (p= .70), confirming no statistical difference .

The absolute strength of the left hand of G.B showed values of 48,25±9,33kg and G.A obtained the values of the hand strength of 47,52±7,77 kg showing a difference of 0,7kg more power absolute (p = .74) for the hand of the G.B did not confirm statistical difference between groups.

As force absolute maximum strength handgrip, the values presented by practitioners Boxing on present study are lower than those measured by Claessens et al (1987) cited Franchini (2003) in judokas high level (right hand = 64.9±8.9kg. left hand = 59.7±8.8 kg). This difference may be due to the type apprehension adopted in judo combat require greater maintenance of force during combat , implying more development this variable in the group of judokas. Another point to be considered is the competitive level because individuals the present study did not belong to a group of athletes as studied for Claessens et al (1987).

In the studies by Dias et al (2010) observed that even though the absolute strength values can be useful in clinical practice, and even sports science, and there are several aspects variables occurring between the beginning and end of the grip that may improve the understanding of the phenomenon. Therefore only the absolute values of the force may not be enough to evaluate the reliability of the sample group, in this sense, this research aimed to compare various aspects such as the relative strength and fatigue index.

The relative strength of the right hand of G.B values were 1.82± .38kg and G.A yielded values of 1.81± .48kg showing a difference of - .01(- .5%) between G.A relative strength of the left hand of G.B values were 1.78± .33kg and G.A yielded values of 1.76± .45 kg showing a difference of - .01(- .8%) between the groups .

The fatigue index (FI%) in the right hand G.B values were .08± .06 G.A and the obtained values were .10± .10 demonstrating a difference of .02(25.0%) between the groups. The fatigue index (FI%) in the left hand G.B values were.08± .05 and in G.A were obtained the values of .10±0.06 demonstrating a difference of .02(26.0%) between the groups .

In studies of Incel et al (2002) and Jarjour et al (1997) observed that the difference between dominant and non-dominant hand is less than 10%, or not significantly different. Therefore the present study is not stuck to assess what would be the dominant and non-dominant hand of the individuals.

It is important to note that practitioners boxing of the present study both G.B as G.A had higher relative strength of grip in the right hand over the left hand. This may indicate that the studied individuals tend to employ more strength in his right hand, resulting in superiority to his left hand.

Another factor that may be intervening as and is related to lateral dominance. According Nicolay and Walker (2005)

cited in Dias (2010) evaluated 51 healthy subjects, aged between 18 and 33 years. The results showed that, compared to the peak maximum strength, individuals evaluated showed no differences in strength between the dominant and non-dominant hands. The authors reported additionally that the dominant hand, although generating harder, presents fatigue faster.

However Marins and Fernandes (2011), concluded that it is difficult to draw conclusions about the percentage difference between the dominant hand and non-dominant hand in hand grip strength, and this is directly influenced by many factors such as the type of work and sport practiced. Possibly other studies should be conducted with a larger number of athletes to verify this aspect in Boxing.

Thus, we cannot consider any fixed percentage difference in hand, and the assessment of handgrip right to verify the difference between one hand and another, and if there is, what percentage of difference considered correct. Another common problem in testing handgrip that makes us have dubious results is evaluated during the sincerity of the hold, Dias (2010) cites that in relation to interference as the lack of sincerity of effort is a very discussed in the literature that can generate results very dubious during the evaluation of grip strength.

Gunther et al. (2008) mentions that there is a positive correlation between handgrip strength, weight and height in healthy subjects. Thus, it is essential that during the evaluation process of the handgrip is performed anthropometry and data analysis, their influence should be considered. This form in this study was considered the circumference of forearm represented in Table 3.

Table3 – Difference of the circumference of the forearm groups beginner and advanced mode for boxing.

Variable	Beginner (n=30) $\bar{x}$±SD	Advanced (n=31) $\bar{x}$±SD	Diff (diff%)	p
Circ. Right Forearm	28.41±1.95	28.28±1.95	- .1(- .5%)	.79
Circ. Left Forearm	28.17±1.98	28.02±1.94	- .1(- .5%)	.77

$\bar{x}$ mean. SD standard deviation
p< .05 test-t de Student

The data in Table 3 show that the mean circumference of the right forearm group Beginner is 28.41cm for the Advanced of which is 28.28 cm. and submitted the same standard deviation between groups, this shows us that there is no relevant difference between beginners and advanced individuals.

The average circumference of the left forearm beginner group is 28.17 cm and 28.02 cm group advanced, with a standard deviation of 1.98cm and 1.94 for beginners to advanced, also showing no significant differences between groups.

Nicolay and Walker (2005) cited in Dias (2010), found a high ratio of maximum force with the size and girth of the forearm, grip circumference, the width of the palm, the palm- size, body mass and height. Close relationships were also found between anthropometric variables and the same average force applied during 30 seconds of continuous pressure.

According to Fernandes and Marins (2011), when dealing with high-performance athletes, small details can make a difference to the victories happen. Thus, the development of grip strength must be present in the planning of technicians and trainers, as well as its form of assessment.

CONCLUSION

It was concluded that the comparison between the groups for the investigated variables showed no significant difference to affirm the existence among the categories, in other words, the groups differ only in the technique of the sport and not the neuromuscular fitness. Showed that the population of the investigated mode does not benefit from a physical preparation adequate. Same they are not considered athletes would need to improve their ability to advance neuromuscular mitigate risks related to trauma wrist. It is possible to improve the training, not only in technique but in supplements exercises for the muscles of the arm. With that, perhaps we would get better results in future research replicating the same methodology.

Thus, strength training is crucial for the record of reach higher levels of handgrip strength (TSOLAKIS, 2006; KRAEMER 2003 apud FERNANDES and MARINS, 2011). In their studies, the authors found that properly periodized strength training results in increased values of handgrip strength. Szymanski et al. (2006) apud Fernandes and Marins (2011) found that higher levels of handgrip strength can be achieved with specific training for wrist and forearm, which can be a differentiator in this mode, in which the manual force is not as explored. It is suggested that further studies be conducted with a categorization of the study group differently from that used this.

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COMPARISON OF LEVELS OF MANUALSTRENGTH ON HOLD PRACTITIONERS OF BOXING BEGINNER AND ADVANCED MALE BETWEEN 18 AND 28 YEARS.

ABSTRACT

When dealing with high-performance athletes, small details can make a difference to the victories happen. Thus, the development of grip strength must be present in the planning of technicians and trainers, as well as its form of assessment. This research aimed to determine the levels of handgrip strength in boxing practitioners, beginners and advanced, male, between 18 and 28 years. The sample consisted of 61 individuals with mean age 23.7±3.1 years and 30 beginners (GI) and 31 advanced (GA), class participants boxing premises of a health Joinville - SC at least 3 times per week. Protocols were used standardized assessment of manual dynamometry, circumference, body weight and height of Fernandes Filho (2000). The main results of the comparative of the absolute strength of the right hand group Beginner (GI) showed values of 49.47±9.16 kg and the advanced group (GA) obtained lower values 48.68±6.60 a difference of 0.8 kg of absolute strength (p = .70). The absolute strength of the left hand of GI showed values of 48.25+9.33 kg and GA obtained the values of the hand strength of 47.52 ±7.77 kg showing a difference of .7 kg more of strength absolute (p = .74) for the hand of GI In both cases confirming no statistical difference between the groups. With this study it was possible to identify different values between the groups, though not formalized a significant difference. It should, however, seek new studies that are more efficient in finding information and thus, we suggest that the groups are categorized not only by practice time.

KEYWORDS: Boxing, Manual Hold, Strength.

COMPARAISON DES NIVEAUX DE MAINS VIGUEUR LE BOXE POUR DÉBUTANTS ET AVANCÉS PROFESSIONNELS, MÂLE, ENTRE 18 ET28 ANS.

RÉSUMÉ

Lorsque vous traitez avec des athlètes de haute performance, les petits détails peuvent faire une différence pour les victoires arrivent. Ainsi, le développement de la force de préhension doit être présent dans la planification des techniciens et des formateurs, ainsi que sa forme d'évaluation. Cette recherche visait à déterminer les niveaux de force poignée de praticiens de boxe, débutants et avancés, de sexe masculin, âgés de 18 et 28 ans. L'échantillon était composé de 61 personnes de moyenne 23.7±3.1 ans et 30 débutants (GI) et 31 avancés (GA), les participants de la classe des locaux de boxe d'une Joinville santé - SC au moins trois fois par semaine. Protocoles ont été utilisés évaluation standardisée de dynamométrie manuelle, la circonférence, le poids corporel et la hauteur de Fernandes Filho (2000). Les principaux résultats de l'analyse comparative de la force absolue du groupe main droite Débutant (GI) ont montré des valeurs de 49.47±9.16 kg et le groupe avancé (GA) a obtenu des valeurs inférieures 48.68 ± 6.60 soit une différence de .8 kg de force absolue (p= .70). La force absolue de la main gauche de l'IG ont montré des valeurs de 48.25+9.33 kg et GA obtenues les valeurs de la force de la main de 47.52±7.77 kg montrant une différence de plus de .7 kg de force absolue (p= .74) pour la main de GI Dans les deux cas confirmant l'absence de différence statistiquement significative entre les groupes. Avec cette étude, il a été possible d'identifier des valeurs différentes entre les groupes, mais pas formalisé une différence significative. Il convient toutefois de rechercher de nouvelles études qui sont plus efficaces dans la recherche de l'information et donc, nous suggérons que les groupes sont classés non seulement par temps de pratique.

MOTS-CLÉS: Boxe, Manuel attente, la force.

COMPARACIÓN DE LOS NIVELES DE FUERZA DE LAS MANOS EN PROFESIONALES DE BOXEO PRINCIPIANTES Y AVANZADOS, VARÓN, ENTRE 18 Y 28 AÑOS.

RESUMEN

Cuando se trata de deportistas de alto rendimiento, los pequeños detalles pueden hacer una diferencia y las victorias ocurren. Por lo tanto, el desarrollo de la fuerza de agarre debe estar presente en la planificación de los técnicos y formadores, así como su forma de evaluación. Esta investigación tuve como objetivo determinar los niveles de fuerza de la mano de los profesionales de boxeo, principiantes y avanzados, varón, entre 18 y 28 años. La muestra total consistió en 61 sujetos con edad media 23.7 ± 3.1 años. 30 de estés principiantes (GI) y 31 avanzados (GA), los participantes de la clase de boxeo locales de salud Joinville - SC al menos tres veces por semana. Protocolos fueron utilizados evaluación estandarizada de dinamometría manual, circunferencia, peso corporal y la altura de Fernandes Filho (2000). Los principales resultados de la comparativa de la fuerza absoluta del grupo de la mano derecha. Principiante (GI) mostraron valores de 49.47 ± 9.16 kg y el grupo avanzado (GA) obtenido valores más bajos 48.68 ± 6.60, una diferencia de .8 kg de fuerza absoluta (p= .70). La fuerza absoluta de la mano izquierda de GI mostró valores de 48.25 ± 9.33 kg GA obtuvieron los valores de la fuerza de la mano de 47.52 ± 7.77 kg muestran una diferencia de .7 kg más de la fuerza absoluta (p= .74) para la mano de GI en ambos casos confirmar ninguna diferencia estadística entre los grupos. Con este estudio fue posible identificar los valores diferentes entre los grupos, aunque no formalizado una diferencia significativa. Debe, sin embargo, buscar nuevos estudios que son más eficientes en la búsqueda de información y por lo tanto, se sugiere que los grupos se clasifican no sólo por el tiempo de la práctica.

PALABRAS CLAVE: Boxeo, la Mano, Fuerza.

COMPARAÇÃO DOS NÍVEIS DE FORÇA DE PREENSÃO MANUAL EM PRATICANTES DE BOXE INICIANTE E AVANÇADO DO SEXO MASCULINO ENTRE 18 E 28 ANOS.

RESUMO

Quando tratamos de atletas de alto rendimento, pequenos detalhes podem fazer a diferença para que as vitórias aconteçam. Dessa forma, o desenvolvimento da força de preensão manual deve estar presente no planejamento de técnicos e preparadores físicos, assim como sua forma de avaliação.Esta pesquisa teve como objetivo determinar os níveis de força de preensão manual em praticantes de boxe, iniciantes e avançados, do sexo masculino, entre 18 e 28 anos.A amostra foi composta por 61 indivíduos com idade média 23,7±3,1 anos, sendo 30 iniciantes (G.I) e 31 avançados (G.A), participantes das aulas de Boxe nas dependências de uma academia de Joinville – SC, no mínimo três vezes por semana.Foram utilizados os protocolos de avaliação padronizados de Dinamometria Manual, circunferências, peso corporal e estatura de Fernandes Filho (2000).Os principais resultados do comparativo de força absoluta da mão direita do grupo Iniciante (G.I) apresentaram valores de 49,47±9,16 Kg e para o grupo avançado (G.A) obteve-se valores inferiores 48,68+6,60, uma diferença de 0,8 kg de força absoluta (p=0,70). A força absoluta de mão esquerda de G.I apresentou valores de 48,25±9,33Kg e no G.A obteve-se os valores da força de mão de 47,52±7,77Kg demonstrando uma diferença de 0,7 kg a mais de força absoluta (p=0,74) para a mão do G.I. Em ambos os casos não confirmando diferença estatística entre os grupos. Com este estudo foi possível identificar valores diferenciados entre os grupos, entretanto não formalizando uma diferença significativa. Deve-se, contudo, buscar novos estudos que sejam mais eficientes na busca da informação e, com isso, sugerimos que os grupos sejam categorizados não somente pelo tempo de prática.

PALAVRAS CHAVE: Boxe, Preensão Manual, Força.