

40 - THE OPINION OF PHYSIOTHERAPISTS UPON THE PRACTICE OF RESISTANCE EXERCISES FOR TEENAGERS

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INTRODUCTION

The weight trainings, also known as resistance training (RT), are the ones with some kind of resistance adjustable to muscular contraction (SANTARÉM, 1999). The media, according to Santarém (2000), has been showing RT as a dangerous activity, although it doesn't present so many risks, demonstrating that this practice is still closely chained to stigmata and prejudice. However, according to Kraemer and Fleck (2002), in resistance training, the risk of any lesion to happen is very low.

As for RT for teenagers, the situation seems not to be different. It is perceived an incomprehension by a quite large number of people, including the professionals from health areas, amongst which there are some physiotherapists.

The speculation which has been created in an empirical relation to the subject influences the opinion and the behavior of many professionals in work place. From this context, it has been created the need to know how some professionals express themselves with the problem, making appear the following inquiry: What is the opinion of physiotherapists upon the resistance training for teenagers?

This theme needs to be clarified and divulged by members of the health areas, once, according to Fischer (2002), there are many which are still outdated in relation to new evidences which show benefits for teenagers from the practice of RT, as hypertrophy and significant strength increase, etc.

METHODS

The research has taken place in two Physiotherapy Clinics from Belém (in the state of Pará) and had a universe of twenty physiotherapy professionals, with the sampling of sixteen physiotherapists. Eight physiotherapy professionals have been chosen from each clinic registered in COFFITO. It has been adopted, as a selective criterion, professionals with a minimum of two years after graduation and at least on post graduate education concluded.

The study is based on a questionnaire with eight frequent questions referring to the practice of resistance exercises in teenagers; thus the questionnaire has been given to the physiotherapists, in order to obtain information about the problem. After this stage, it has been done a gathering of some data, and observations from the answers in the questionnaire.

The study also occurred from the direct, descriptive exploratory and qualitative observation (CERVO; BERVIAN 2002).

The data have been depicted in tables and graphs, and treated in a statistical way by using the statistical package SPSS 16.0. The analysis adopted the descriptive statistics in order to characterize the sample, through the distribution of frequency. To the analysis of the differences, it has been used the chi-squared test for non-parametric data, in which a $p < 0.05$ has been adopted.

All the professionals have read and signed the Free and Clarified Consent Term, which explained the aim of the research. The individuals which have taken part in the research have answered the questionnaire in a confidential way. Their information and names have been kept in total secrecy.

RESULTS

In Table 1, it is possible to observe the frequency distribution of the answers from the physiotherapists interviewed about the subject matter. There, it can be seen that not only for question 1 — which deals with how does the physiotherapist consider safe the resistance exercises for teenagers — it is verified a statistically significant difference, which allowed to perceive that, for their interviewees, the significant majority (75.0%) consider this practice as safe.

In question 6 — which asks whether the weight training can increase the strength levels even in adolescence — it could be verified that all the interviewees answered "yes", it can increase.

For the remaining questions, no statistical difference has been verified, and it has been observed that the majority of the interviewed physiotherapists (68.8%) believe that the resistance training can influence in a negative way the individuals' developing epiphyseal plate; believe that the resistance training influence in a negative way the teenagers' statural growth (56.3%); consider that the muscular hypertrophy in teenagers is beneficial to their health (62.5%); consider that the muscular hypertrophy in teenagers is not maleficent (62.5%); consider that the strength levels increased in teenagers bring benefits to their health and functionality (68.8%); and believe that the resistance training is not harmful for teenagers (62.5%).

Table 1 – Comparative and descriptive characteristics of the sample.

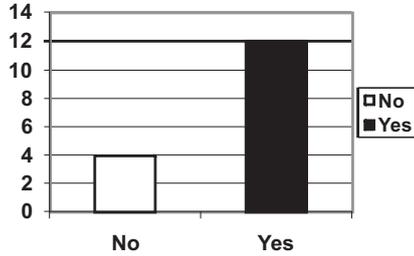
Variable	Frequency		X ²	P
	No	Yes		
Question 1	4 (25.0%)	12 (75.0%)	4.00	0.05*
Question 2	5 (31.3%)	11 (68.8%)	2.25	0.13
Question 3	7 (43.8%)	9 (56.3%)	0.25	0.62
Question 4	6 (37.5%)	10 (62.5%)	1.00	0.32
Question 5	10 (62.5%)	6 (37.5%)	1.00	0.32
Question 6	00 (0.0%)	16 (100.0%)	-----	-----
Question 7	5 (31.3%)	11 (68.8%)	2.25	0.13
Question 8	10 (62.5%)	6 (37.5%)	1.00	0.32

Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

In Frame 1, it can be seen, through charts, the results of the physiotherapy professionals' answers to the questionnaire applied in this research.

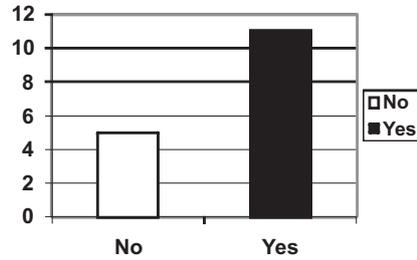
Frame 1 – Charts of answers to the questionnaire: What is the physiotherapists' opinion upon the resistance training for teenagers?

Chart 1 - Question 1: Do you consider safe the execution of resistance exercises by teenagers?



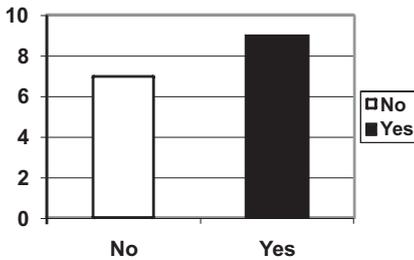
Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

Chart 2 - Question 2: Do you believe that the resistance training can bring harms to the individuals' epiphyseal plate in development?



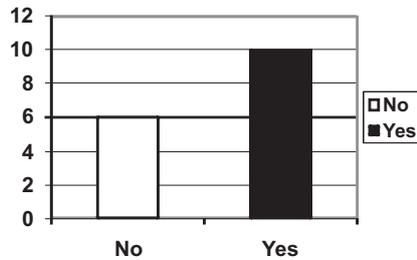
Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

Chart 3 - Question 3: Do you believe that the resistance training influences in a negative way the teenagers' statural growth?



Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

Chart 4 - Question 4: Is the muscular hypertrophy in teenagers beneficial to their health?



Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

Chart 5 - Question 5: Is the muscular hypertrophy in teenagers maleficent to their health?

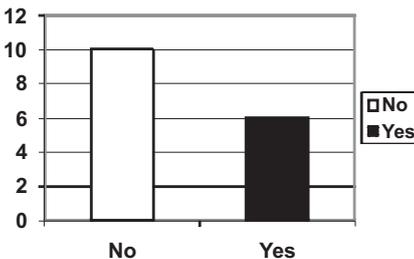
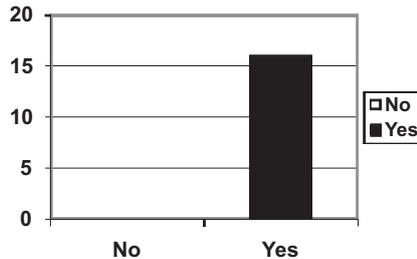
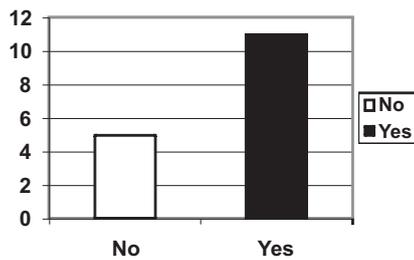


Chart 6 - Question 6: Can the weight training increase the strength levels even in adolescence?



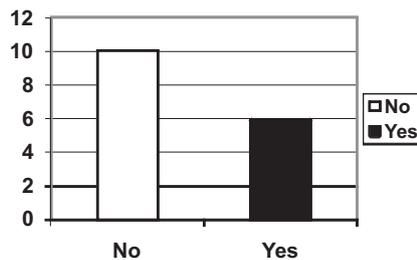
Source: Questionnaire: The Opinion of the

Chart 7 - Question 7: Do the strength levels increased in teenagers bring benefits to their health and functionality?



Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

Chart 8 - Question 8: Do you believe that the resistance training is harmful to teenagers?



Source: Questionnaire: The Opinion of the Physiotherapists, May/2010.

DISCUSSION

On Chart 1, it is possible to understand that the significant majority of physiotherapists consider it safe the resistance exercises for teenagers, what can be verified when only 4 from 16 interviewees consider that this practice is not safe.

The authors Lillegard et al. (1997) are in accordance with the majority of physiotherapists of the research, since, according to them, the benefits of RT, properly applied, planned and oriented, are beyond the risks, making, thus, the benefits be able to be acquired by the teenagers with safety.

Organizations such as The American Academy of Pediatrics (2001), the American College of Sports Medicine (2002), and the American Orthopedic Society of Sports Medicine (1988) orient the TR as an safe activity for teenagers, since it is well planned and oriented by the competent professional.

Dowshen (2001) comments that the RT has been discouraged for individuals in adolescence, once it has been considered dangerous for such people to practice. This subject has also been treated in an improper way by the press, with news that exaggerate the risks of weight training for teenagers, in such a way that can keep many younger people away from doing this activity, which is, as any other, promoter of health and fitness (SANTAREM, 2000).

On Chart 2, it is possible to notice that, although the difference is not significant by the statistical viewpoint, the majority of the interviewed physiotherapists believe that the resistance training can influence in a negative way the epiphyseal plate of developing individuals, since 11 interviewees consider this risk.

In opposition to what the majority of physiotherapists say, Meloni (2004) argues that the ones who discourage the weight training for developing individuals use this argument to justify their position, i.e. that the weight training does not bring any benefits to them, once the hormonal system is not in condition of giving support to the strength increase. Meloni (2004) also asserts that the arguments made upon the lesion of the osteoarticular structures in pubertal and nonpubertal individuals are unfounded.

A study made by Weltman et al. (1986) verified the safety and efficiency of the RT in 36 prepubertal children. These authors do not find evidences of lesion on the epiphysis, bone or muscle after a program of 14 weeks of supervised RT.

On Chart 3, it is possible to notice that the discrete majority of the interviewed physiotherapists believe that the resistance training influences in a negative way the teenagers' statural growth. Nine from the interviewees understand in such manner.

According to Sullivan and Anderson (1999), the RT does not interfere in teenagers' statural growth, on the contrary, the regular practice of RT, if correctly oriented, stimulates the biological growth and maturation (Barros, 2003). Alves and Lima (2008) also comment that the RT has the absence of negative impact on the growth.

On Chart 4, what is perceived is that the nonsignificant majority understands that the process of muscular hypertrophy, generated by the resistance training for teenagers, is beneficial for their their health, what can be confirmed with the opinion of 10 from 16 interviewed physiotherapists.

The authors Fleck and Kraemer (1999) affirm that, despite being little significant, the muscular hypertrophy is evident in individuals in adolescence, agreeing thus with the statement made by the physiotherapy professionals.

On Chart 5, it is found that, for 10 from the 16 interviewees — so, the nonsignificant majority — the muscular hypertrophy due to the resistance training is not maleficent to the teenager.

Agreeing with the nonsignificant majority, Santarém (1999) comments that there is no evidence that the training for hypertrophy is associated with harm to health.

On Chart 6, it is possible to observe that all the interviewees consider that the weight training is capable of increasing the strength levels of the practitioners, even in adolescence.

This study is in accordance with the unanimous opinion of the physiotherapists, where preteenagers of both sexes underwent the RT with charge progression for nine weeks. The training had a frequency of 3 times a week, with an average duration of 25 to 30 each training (SEWALL; MICHELLI, 1986). In this work, it has been observed an increase of 42.9, compared to an increase of only 9.5 in a not trained group (SEWALL; MICHELLI, 1986).

Also agreeing with this idea, Fleck e Kraemer (1999) comment that boys and girls who practice the RT can have significant increase in strength level, mainly due to the recruiting of motor units.

On Chart 7, it is observed that the nonsignificant majority of the interviewees consider that the strength levels increased in teenagers bring benefits to their health and functionality. Such statement was obtained from 11 out of 16 interviewees.

One of the evident benefits is highlighted by Benjamin (2003), when he affirms that the participation of individuals in maturation stage to regular programs of RT results in many benefits related to health and performance, as well as they improve the motor abilities and reduce lesions in sports and recreational activities.

According to the studies of Tavares and Navarro (2007), the RT has contributed positively to the improvement of the performance of daily activities and to the decrease of levels of depression which are common during adolescence.

On Chart 8, it is seen that the discrete majority of the interviewees believe that the resistance training is not harmful to teenagers, confirmed by the opinion of 10 interviewed physiotherapists.

Kisner and Colby (2005), who are widely-known authors in the area of kinesiotherapy, agree with the majority of the interviewees, when they affirm that the RT for teenagers does not cause lesion to the immature musculoskeletal system, nor even to growth plates. On the contrary, many studies have been stating the benefits of this practice for these groups.

Blimkie et al. (1989), in the University of McMaster in Ontário, Canada, have also evaluated the safety and the efficiency of the RT in prepubertal boys. The safety has been verified by a physician who used to evaluate them before, during, and after the training. The results of this research do not point any evidence of musculoskeletal system lesion after the RT, and found significant increase in strength and better sports performance.

According to what has been verified in the interviewees' opinions, it can be considered that, for the interviewed physiotherapists of the study, there is a lot of doubt related to the benefits and to the risks of resistance training applied to teenagers. For 53.9% of the interviewees, this training procedure is beneficial and the risks are small or controllable, whereas for the remaining interviewees (46.1%), the resistance training is risky and not much beneficial, seeming not to be suitable for teenagers, once the risks do not compensate.

CONCLUSION

It has been perceived that the majority of the interviewed physiotherapists consider it safe for teenagers to practice the RT, even if still 25.0% of the interviewed physiotherapists have marked the RT as a insecure practice.

Contradictorily, the second question of the questionnaire reveals the possible negative influence of the RT to teenagers; it demonstrates that the nonsignificant majority of the physiotherapists consider that this practice may harm this

important structure in the statural growth. However, the studies which evaluated children and teenagers who underwent the RT demonstrated no aggression to the epiphyseal plate, what leads us to see that there is still a divergence of ideas between the scientific literature and the opinion of some professionals.

It is possible to perceive that some physiotherapists are still stuck to outdated ideas, which showed the RT as a dangerous practice, although there were not any study which could prove such statement.

This research is made relevant, once it observed the physiotherapists' positioning about the subject "RT for teenagers" and the scientific evidences which exist in literature. It is interesting that more studies could be done with a bigger universe and a broader sample of physiotherapists, in order to achieve statistically significant data.

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THE OPINION OF PHYSIOTHERAPISTS UPON THE PRACTICE OF RESISTANCE EXERCISES FOR TEENAGERS

ABSTRACT

The objective is to know the opinion of professionals in physiotherapy and to correlate their opinions with the literature that discusses the subject. The research is based on qualitative methodology and techniques used were questionnaires and literature. The data were presented as tables and graphs, and treated statistically by the SPSS 16.0 statistical package. The data analysis adopted the descriptive statistics to characterize the sample through the distribution of frequency. For analysis of differences we used the chi-square. This study aims to determine the views of physiotherapists and see if it is in agreement with the evidence, since this is still a very controversial topic among healthcare professionals. The study found that 53.9% of physiotherapists believe that resistance training is beneficial to the health of teenagers and 46.1% believe the opposite.

KEY-WORD: Resistance Training. Teenagers. Physiotherapists.

L'OPINION DES PHYSIOTHÉRAPEUTES SUR LA PRATIQUE D'EXERCICES DE LA RÉSISTANCE POUR ADOLESCENTS

RÉSUMÉ

L'étude a l'objectif de connaître l'opinion des professionnels de physiothérapie et faire la relation de ses opinions avec la littérature qui disserte sur le sujet. La recherche est fondée sur la méthodologie qualitative et les techniques utilisées étaient les questionnaires et la littérature scientifique. Elle présente des données dans les tableaux et graphiques, statistiquement traitées

avec le logiciel de statistiques SPSS 16.0. L'analyse a adopté la statistique descriptive pour caractériser l'échantillon par le biais de la fréquence. Pour l'analyse des différences, on utilise le test du chi carré. L'étude a identifié que 53,9% des physiothérapeutes croient que l'entraînement en résistance est bénéfique pour la santé des adolescents, et que 46,1% pensent le contraire.

MOTS-CLÉS: Entraînement en résistance. Adolescents. Physiothérapeutes.

LA OPINIÓN DE FISIOTERAPEUTAS EN LA PRÁCTICA DE EJERCICIOS DE RESISTENCIA PARA ADOLESCENTES

RESUMEN

El estudio tuvo como objetivo conocer la opinión de los profesionales de la fisioterapia y relacionar sus opiniones con la literatura que trata sobre el tema. La pesquisa se basa en una metodología cualitativa y las técnicas utilizadas fueron cuestionarios y la literatura. Presenta los datos en tablas y gráficos, El tratamiento estadístico fue con El paquete SPSS 16.0. El análisis se basa en estadísticas descriptivas para caracterizar la muestra, por la distribución de frecuencias. Para el análisis de las diferencias se utilizó El Chi-cuadrado. El estudio encontró que el 53,9% de los fisioterapeutas creen que el entrenamiento de resistencia es beneficioso para la salud de los adolescentes y el 46,1% cree lo contrario.

PALABRAS CLAVE: Entrenamiento de resistencia. Adolescentes. Fisioterapeutas.

A OPINIÃO DE FISIOTERAPEUTAS SOBRE A PRÁTICA DE EXERCÍCIOS RESISTIDOS PARA ADOLESCENTES

RESUMO

O estudo teve como objetivo conhecer a opinião dos profissionais de fisioterapia e fazer a relação de suas opiniões com a literatura que discorre sobre o assunto. A pesquisa está baseada na metodologia qualitativa e as técnicas utilizadas foram os questionários e a literatura científica. Apresenta dados na forma de tabelas e gráficos, tratados estatisticamente através do pacote estatístico SPSS 16.0. A análise adotou a estatística descritiva para caracterizar a mostra, através da distribuição de frequência. Para análise das diferenças utiliza o teste do Qui-quadrado. O estudo apontou que 53,9% dos fisioterapeutas acreditam que o treinamento resistido é benéfico para a saúde dos adolescentes e que 46,1% acreditam o contrário.

PALAVRAS-CHAVE: Treinamento Resistido. Adolescentes. Fisioterapeutas.