160 - THE IMPORTANCE OF ISOSTRETCHING FOR PREVENTING INJURIES AND PAIN IN THE LUMBAR REGION IN WOMEN

ANDRESSA LOPES
LUIS FERNANDO DA SILVA
EMILIO CESAR MACUCO
JULIMAR PEREIRA
JACKSON J. SILVA
Positivo University Nucleus of Biological and Health Science Curitiba/PR – Brazil
dessinha.lopes@hotmail.com

1 INTRODUCTION

When we refer to pain in the back, we must know whether it is acute or chronic. Acute pain can last two months, whereas chronic pain can last a whole life.

The backache, as popularly known, is a pain that occurs in the inferior part of the vertebral column, the lumbar column. About three in each four adults are going to have backaches during their lifetime. However, a great parcel of the population nowadays already live with pain in the back, resulting from bad position, sedentary lifestyle, incorrect positions in the workplace or doing household chores, among other associated factors including the wrong execution of exercises. (TREATMENT INSTITUTE OF VERTEBRAL COLUMN, 2010)

As soon as the backache is diagnosed, we must start a treatment, which will depend on the real cause of this pain, being that a protrusion, a hernia, or whether the problem is only postural, muscular or ergonomic.

When dealing with backaches or in the prevention of that, we have as treatment the Isostretching. It is a gymnastic therapeutically composed of exercises that simultaneously allow isometric stretching and strengthening of some muscular groupings, acting in the prevention and the treatment of the bony-muscular alterations (PORTAL EDUCAÇÃO 2009).

This method has been applied in Brazil since 1994, by doing movements that take into consideration the position of the column and also the ideal positioning of the Pelvic Waist. Besides that, it exercises the auxiliary muscles for breathing, the muscular strengthening, and the flexibility.

The work of postural correction can be carried through standing, sitting or laying positions, using balls and sticks. The exercises can be practiced by almost anyone, except for people suffering from severe heart diseases and the patients complaining of acute pain. Individuals in hernia postoperative period, adolescents with accented dislocations, sedentary elderly ones, patients with work related injuries and patients with articulation injuries who cannot practice sports, are the main beneficiaries (BONDE, 2009).

Moreover, Isostretching isometrically strengthens the muscular groupings, avoids the urine incontinence, improves the physical condition, the sanguineous(vein return) and lymphatic circulation, besides developing the conscience of the correct positions of the column, improving the general corporal position, facilitating the disc and articulation decompression (CERPO, 2011).

Therefore, we have as an objective the comparison of studies in order to predict whether there is or not a significant importance of the isostretching method in the prevention of injuries and pains in the lumbar region.

2 METHODS

In order to carry through this qualitative study, we referred to databases, books and periodicals, among others. We found 20 studies, thus generating a necessity for using the criteria of inclusion and exclusion, such as: articles including only women aging between 18 and 30 as samples, not the pregnant ones, presenting complaints of backaches. Following these criteria, five articles were used for making the literature revision.

3 DEVELOPMENT

Based on the method of isostretching, five studies have been compared. However, the methods for carrying through the experiments were very similar. Amongst them, we used the Analogical Visual Scale (figure 1), where it measures in a subjective way the levels of pain in the patient. In the figure below, we can observe that this scale was subdivided into light, moderate and intense.

FIGURE 1 – Analogical Visual Scale



For beginning the experiments, we needed on average 19 people for each study, except for the studies of Lucia (2002) and Durante e Vasconcelos (2009), where we had the participation of one and six volunteers, respectively. In all five studies, the volunteers were of the feminine sex, healthy, being that the average age of them was of approximately 21 years.

In the studies of Macedo, Debiagi and Andrade (2010) and Mann et all (2009) it was necessary to divide the volunteers in two groups, where one of the groups was of control, which would have to remain inactive during the whole program, and the other was the active or experimental group, which participated on the practice of Isostretching. For Campos et all (2009) the groups were also divided in two, however one of them was for the practice of isostretching (GISO) and the second one was for the practice of starching (GA). As well as it was done in the study of Durante and Vasconcelos (2009), who also divided the volunteers in two groups by the means of a drawing, where one group practiced the method of isostretching while the other group practiced the kinesthetic therapy.

After dividing the groups, the volunteers started their practicing. In the picture below we present the data related to the studies.

PICTURE 1 – In the picture below we present the data related to the studies.

STUDY	WEEKLY FREQUENCE	DURATION	TOTAL SESSIONS
MANN et all	2 x	50 minutes	10 sessions
MACEDO et all	2 to 3 x	50 minutes	30 sessions
CAMPOS et all	2 x	30 minutes	16 sessions
LUCIA	5 x	25 minutes	35 sessions
DURANTE E VASCONCELOS	2 x	-	10 sessions

The experimental research of LUCIA (2002) and the study of Campos (2009) respectively used only 3 and 5 positions, while the other two studies practiced 9 to 10 exercises per session. The volunteers of the groups of Durante and Vasconcelos (2009) were also submitted to nine positions of the Isostretching method carried through the lying, sitting and standing positions. The symmetrical positions were repeated six times and the anti-symmetrical were repeated four times.

As the breathing during the exercise is of extreme importance, four of the five studies revealed the method of breathing used by the volunteers, that is, the deep and long exhaling during the execution of the exercises.

The results obtained after the experimental tests revealed that, all the studies proved a significant decrease of lumbar pain after the sessions of isostretching. Beyond improving the muscular force, flexibility and the corporal balance, it also increased the resistance of the abdominal muscles, maximum gluteus and trunk extensors.

Durante and Vasconcelos (2009) revealed that in the evaluation of the pain presented by the analogical visual scale, the average of the values found in the group A was 4,3 at the beginning of the treatment, and at the end, it was zero, in the practitioners of isostreching. When comparing the groups (isostretching and kinesthetic therapy), we can notice that there were no differences on the level of pain at the beginning of the treatment, and the same behavior was found when comparing the groups in the end of the treatment, that is, among the practitioners of isostreching and kinesthetic therapy all had a significant improvement, proving that the two methods are efficient

It was possible to verify that in the fifteenth session there was already a significant increase in the indicators of flexibility. Thus, it was evidenced that the development of general flexibility occurred more intensively during the initial phase of the treatment. (LUCIA, 2002, p.10).

For Mann et all (2009) only 10 sessions of isostretching were enough to diminish non-specific lumbar pain in women.

This way, it is possible to perceive that all the patients practicing isostreching diminished lumbar pain after the treatment.

4 FINAL CONSIDERATIONS

After comparisons, the method was proven to be beneficial, if practiced with regularity. The practice of isostretching significantly reduced the levels of pain in all the groups that had non-specific lumbar pain.

That way, it is known that the method is recommended for people who have backaches, in case they don't fit in the criteria of exclusion, for example, those who have severe hearth diseases must not practice isostretching.

Even though, it is suggested accomplishment of more researches in this area, with a higher number of volunteers and sessions, for later comparing to other studies.

REFERÊNCIAS

CAMPOS, Karina F.; SANTOS SOARES, Eveliny A.; ASSONI, Gisele A.; FERRACINI JUNIOR, Luiz Carlos. **Comparação entre alongamento clássico e o método isostretching em mulheres jovens com queixa de lombalgia.** Disponível em: <http://www.unimep.br/phpg/mostraacademica/anais/7mostra/4/134.pdf>. Acesso em: 06 mai. 2011.

LUCIA, Ana. **O iso-stretching e a flexibilidade: um estudo de caso.** 2002. Disponível em: < http://pt.oboulo.com/o-iso-stretching-e-a-flexibilidade-um-estudo-de-caso-29782.html>. Acesso em: 06 mai. 2011.

MACEDO, Christiane de S. G.; DEBIAGI, Polyana C., ANDRADE, Fernanda M. de.. **Efeito do isostretching na resistência muscular de abdominais, glúteo máximo e extensores de tronco, incapacidade e dor em pacientes com lombalgia**. Disponível em: <http://www.scielo.br/pdf/fm/v23n1/11.pdf>. Acesso em: 05 jun. 2011.

MANN, Luana; KLEINPAUL, Julio Francisco; WEBER, Priscila; MOTA, Carlos Bolli; CARPES, Felipe Pivetta. **Efeito do treinamento de Isostretching sobre a dor lombar crônica: um estudo de casos.** Motriz, Rio Claro, v.15 n.1 p.50-60, 2009.

ROCHA, Augusto Silva Melo da; GONÇALVES, Kênio Otávio Fernandes; CARVALHO, Aline Carla Araújo; PRADO, Érika Rosângela Alves. **Estudo comparativo entre a utilização da técnica de estabilização central e do isostretching no tratamento de pacientes com lombalgia crônica.** Alagoas. Disponível em:
<http://www.quarkmedical.com.br/downloads/trab-cientificos/artigo_alinecarla.pdf>. Acesso em: 06 mai. 2011.

BONDE. **Quais os benefícios do isostretching?**. Disponível em: <http://www.bonde.com.br/bonde.php?id_bonde=1-27--148-20091130>. Acesso em: 06 mai. 2011.

CERPO. Iso-stretching. São Paulo, 2011. Disponível em: <http://www.cerpofisioterapia.com.br/fisioterapia/iso-stretching.html >. Acesso em: 06 mai. 2011.

DURANTE ,Henrique; VASCONCELOS, Elaine Cristine Lemes Mateus de. **Comparação do método Isostretching e cinesioterapia convencional no tratamento da lombalgia.** Londrina, v. 30, n. 1, p. 83-90, 2009.

ELETROTERAPIA. Escala de dor – EVA. Disponível em: <http://www.eletroterapia.com.br/regua_dor.jpg > . Acesso em: 06 jun. 2011.

INSTITUTO DE TRATAMENTO DA COLUNA VERTEBRAL. **Dor nas costas.** Fortaleza, 2010. Disponível em: <http://www.herniadedisco.com.br/doencas-da-coluna/dor-nas-costas> Acesso em: 06 mai. 2011.

PORTAL EDUCAÇÃO. **O que é isostretching?.** Mato Grosso do Sul, set. 2009. Disponível em: <http://www.portaleducacao.com.br/biologia/artigos/8759/voce-sabe-o-que-e-iso-stretching> Acesso em: 06 mai. 2011.

Andressa Lopes
Rua General potiguara, 487.
Bloco 33 ap: 44
dessinha.lopes@hotmail.com

THE IMPORTANCE OF ISOSTRETCHING FOR PREVENTING INJURIES AND PAIN IN THE LUMBAR REGION IN WOMEN

SUMMARY

Being Isostretching a gymnastic therapeutically composed of exercises that simultaneously allow isometric stretching and strengthening of some muscular groupings, acting in the prevention and the treatment of the bony-muscular alterations, with this study we aimed at making a comparison among experiments already carried through with this method as base for prevention and/or treatment of backaches. In order to base it, five researches were used, from which results have been analyzed and discussed. As a conclusion, it was verified that the method was beneficial in all of them.

KEY - WORDS -: backache; case study;

ISOSTRETCHING EN L'IMPORTANCE DE PREVENIR LES BLESSURES ET DOULEURS DANS LA REGION LOMBAIRE DANS LES FEMMES

RÉSUMÉ

Comme la Isostretching ést une gymnastique thérapeutique composé par exercices qui permais simultanément, allonger et fortifier isométriquement quelques groupes musculaires, il actue dans la prévention et le traitment des changements musculo-squelletiques. Le travail ait l'intencion d'y faire une camparaison entre autres travaux réalisés avec la même méthode, pour prévenir et aussi traiter de mal au dos. Pour lui fondammenter, ont utilisés cinque recherches, lesqueles, le résultát ont analisés et discutés. Comme résultat du present travail, ont verifié que la méthode a été bénéfique em touts les travaux étudiés.

MOTS-CLAVÉS: mal au dos; Gymnastique thérapeutique; étude de cas.

ISOSTRETCHING EN LA IMPORTANCIA DE LA PREVENCIÓN DE LESIONES Y DOLOR EN LA REGIÓN LUMBAR EN MUJERES

RESUMEN

Como le Isostretching és uma Gymnasia terapêutica que tiene ejercicios que permiten al mismo tiempo, alargar y fortificar isometricamente alcunos grupos musculares, actuando em la prévencion y le tratamiento de las modificaciones musculo-esqueleticas. Esto trabajo tiene la intencion de hacer uma camparación entre otros trabajos realizados com lo mismo método, para evitar e também tratar de dolor de espalda. Para fondamentarlo, utilisaranse cinco invertigaciones que les resultados fueron analizados y discutidos. Como resultados del trabajo que si presenta, comprobase que el método fué beneficioso en todas las investigaciones.

PALABRA-LLAVES: Dolor de espalda, Gymnasia terapêutica, estudo de caso.

A IMPORTÂNCIA DO ISOSTRETCHING NA PREVENÇÃO DE LESÕES E DORES NA REGIÃO LOMBAR EM MULHERES

RESUMO

Sendo o Isostretching uma ginástica terapêutica composta por exercícios que permitem simultaneamente, alongar e fortalecer isometricamente alguns grupamentos musculares, atuando na prevenção e no tratamento das alterações osteomusculares, buscou-se neste estudo fazer uma comparação entre trabalhos já realizados com este método como base para prevenção e/ou tratamento de lombalgias. Para fundamentá-lo, utilizaram-se cinco pesquisas, das quais os resultados foram analisados e discutidos. Como resultado verificou-se que o método foi benéfico em todos eles.

PALAVRAS - CHAVE: Lombalgia; Ginástica terapêutica; Estudo de caso;