Rev Dor. São Paulo, 2012 jan-mar;13(1):71-4

REVIEW ARTICLE

Effects of chiropractic care in patients with cervical pain: a systematic review*

Efeitos da quiropraxia em pacientes com cervicalgia: revisão sistemática

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SUMMARY

BACKGROUND AND OBJECTIVES: Cervical pain is mostly caused by mechanical-postural changes. Among different therapeutic techniques used by physical therapists, chiropractic care is becoming common in Brazil. This study aimed at reviewing the literature, with secondary and tertiary sources, using Pubmed, Medline and PEdro databases.

CONTENTS: Just 6 controlled randomized clinical trials investigating the effects of chiropractic care on cervical pain were found. In most studies, manipulation techniques have promoted pain relief in a faster and more prolonged way and pain was evaluated by Oswestry's Functional Index, by McGill Pain Questionnaire and by Pain Visual Analog Scale.

CONCLUSION: A larger number of controlled randomized clinical trials involving chiropractic care is needed, as well as the use of more dependable evaluation methods, to prove its real effects in the treatment of cervical pain.

Keywords: Cervical pain, Chiropractic care, Controlled randomized clinical trial, Orthopedic manipulation, Physical therapy modalities.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor cervical é ocasionada na maioria das vezes por alterações mecânicos-posturais. Dentre diferentes técnicas terapêuticas realizadas por fisioterapeutas a quiropraxia têm se tornado comum no Brasil. O objetivo deste estudo foi rever na literatura, com fontes secundárias e terciárias, utilizando-se as bases de dados Pubmed/Medline e PEdro.

CONTEÚDO: Foram encontrados apenas 6 ensaios clínicos controlados e aleatórios, investigando os efeitos da quiropraxia na dor cervical. Na maioria dos estudos as técnicas de manipulação promoveram o alívio de dor de maneira mais rápida e mais prolongada nos pacientes. A dor foi avaliada por meio do Índice Funcional de Oswestry, do Questionário de Dor McGill e da Escala Analógica Visual da Dor.

CONCLUSÃO: É necessária a realização de maior número de ensaios clínicos controlados e aleatórios envolvendo a quiropraxia, bem como a utilização de métodos de avaliação mais fidedignos, a fim de comprovar os seus reais efeitos no tratamento da cervicalgia.

Descritores: Cervicalgia, Ensaio clínico controlado aleatório, Manipulação ortopédica, Modalidades de fisioterapia, Quiropraxia.

INTRODUCTION

Cervical pain is an acute or chronic painful syndrome affecting the cervical spine, which may have different etiologies, such as mechanical-postural changes, arthroses, hernias and disk protrusions, arthritis, spondylitis or muscle spasms, causing orthopedic, rheumatologic or even neurological repercussions[1].

Cervical pain is common in different age groups and both genders, with high predominance among body pain syndromes, being the second major cause of

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spinal pain, after low back pain. Cervical pain affects an average of 12% to 34% of the adult population in some phase of their lives, with higher incidence among females and impairing their daily activities. Its onset is seldom sudden and in general may be related to jolt, long standing in forced position, effort or trauma. Cervical pain may be acute or chronic and is related to biomechanical and muscular disorders, with resulting pain, inflammation and loss of movement amplitude[2].

Chiropractic care is based on chiropractic adjustment techniques which return arthrokinematic movements, normal micromovements to the spine, decreasing neural compression responsible for pain symptoms of that specific dermatome[3].

Although a lot has been researched, there is no consensus in the literature about the best treatment alternative for cervical pain, with strong disagreement about resources to be used. Recently, a practice based on manipulative techniques such as chiropractic care has been proposed.

Medline/Pubmed and PEdro databases were queried. Keywords were: Randomized controlled trial of chiropractic in neck pain, chiropractic treatment of pain and Manual Therapies. Only controlled and randomized clinical trials published between 2002 and 2010 were included.

This study aimed at analyzing, by literature review, the action of chiropractic care to treat cervical pain.

CONTENTS

Thirty-five articles were identified, however only 6 controlled randomized clinical trials to evaluate the effects of chiropractic care techniques to treat cervical pain met the criteria of this study.

Articles were characterized as to treatment modality and results (Table 1) and evaluation methods, treatment duration and follow up (Table 2).

A study has evaluated 366 patients with cervical pain, the origin of which was not arthritis, discal hernia or vertebral fracture. Patients were randomly distributed in 3 groups where cervical manipulation, joint mobilization and conventional physical therapy were applied. Pain was evaluated by Adapted Oswestry and McGill Pain questionnaires. There has been significant difference between groups receiving cervical mobilization and manipulation[3].

A different study has observed the dose-response of cervical manipulation by evaluating the effects of chiropractic care with 8 and 16 weeks, as compared to the group receiving massage alone. Manipulative treatment had better results as compared to massage after evaluation with a specific questionnaire. It has been observed that the time window of 8 to 16 weeks was effective for the treatment of cervical pain disorders[4].

A study comparing cervical manipulation effects to manipulation treatment during the acute and sub-acute

Table 1 – Treatment characteristics, results of clinical trials found

Studies	Treatments	Results
Hurwitz et al.[3]	Chiropractic care x Hospital Cervical Mobilization N = 366 patients	No difference between cervical manipulation and mobilization groups.
Haas et al.[4]	Chiropractic care (8 sessions) x Chiropractic care (16 sessions) x Massage	Manipulation group improvement with no significant difference between groups from 8 to 16 weeks.
Leaver et al.[5]	Chiropractic care (manipulation) x Chiropractic care (mobilization) N: 182 volunteers	Further clinical improvement for patients submitted to spinal manipulation.
Vavrek, Haas & Peterson[6]	Chiropractic care x Conservative Treatment N = 80 volunteers	Decreased cervical spine pain threshold and functional incapacity.
Gemmell & Miller[7]	Chiropractic care (High Speed Manipulation) x Mobilization x Control N = 47 patients	Decreased pain threshold without significant improvement difference between groups in the sub-acute and chronic phases.
Leaver et al.[8]	Chiropractic care x Mobilization N = 182	Patients treated with neck manipulation did not have faster recovery as compared to those treated with neck mobilization

Table 2 – Characterization of evaluation methods, treatment duration and follow up.

Studies	Evaluation Methods	Treatment Duration	*Follow-up*
Hurwitz et al.[3]	Adapted Oswestry's Questionnaire. McGill Pain Questionnaire SF-36 Questionnaire		2,4 weeks, 3 and 6 months
Haas et al.[4],	Specific Questionnaire	2 x a week for 8 weeks	12 and 24 weeks
Leaver et al.[5]	Specific Questionnaire	2 x a week for 2 weeks	-
Vavrek, Haas & Peterson[6]	Modified Von Korff Scale Questionnaire Pain Visual Analog Scale Questionnaire Incapacity Scale	2 x a week for 4 weeks	4,8,12 and 14 weeks
Gemmell & Miller[7]	SF-36 Questionnaire Bournemouth Questionnaire Patient's Global Impression and Change Questionnaire Pain Visual Analog Scale	2 x a week for 3 weeks	3,6 and 12 months
Leaver et al.[11]	Pain Visual Analog Scale Specific Questionnaire	2 x a week for 2 weeks	-

phases, including 182 patients divided in two groups receiving 4 sessions during two weeks, has observed that individuals receiving manipulation presented more significant clinical improvement[5].

According to a study including 80 patients divided in two groups of 40, being the former submitted to conservative cervical pain treatment and the latter to chiropractic treatment, there has been clinical pain improvement of these patients in addition to less functional incapacity[6].

A different study has shown clinical improvement of sub-acute cervical pain with the use of manipulation and other chiropractic and osteopathic techniques. However, due to the small sample size (47 patients), results need confirmation by studies with larger sample sizes[7].

A controlled clinical trial was carried out with 182 patients divided in two groups: manipulation and mobilization. Cervical manipulation was effective to treat cervical pain; however, there has been no significant difference as compared to the group submitted to mobilization[8].

Most analyzed studies have used the Oswestry's Functional Index adapted to cervical pain, however McGill pain questionnaire and visual analog scales were also used.

This review shows the need for new controlled randomized clinical trials with different types of patients to better justify the use of chiropractic techniques to treat cervical pain and to give further subsidies to the clinical practice, thus favoring population's health promotion.

CONCLUSION

A larger number of controlled randomized clinical trials involving chiropractic care is needed, as well as the use of more dependable evaluation methods, to prove its real effects in the treatment of cervical pain.

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Submitted in November 01, 2012.
Accepted for publication in February 24, 2012.