Homoeopathic therapy in cervical spondylosis pain management: A randomised, double-blind, placebo-controlled trial

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Abstract

Background: Homoeopathic medicines are known to be effective in alleviating pain and other troublesome symptoms of patients suffering from cervical spondylosis. Objective: The primary objective was to evaluate the effectiveness of predefined homoeopathic medicines in the pain management of cervical spondylosis using the Cervical Spondylosis Pain Management Scale (CSPMS). Methods: A prospective, double-blind randomised placebo-controlled multicentric clinical trial was conducted from April 2012 to May 2013. Results: Sixty-seven cases were enrolled in the Homoeopathy group and 69 in the placebo group. One hundred and thirty-four cases that completed the follow-ups were analysed. The improvement in pain was 56.18% in the Homoeopathy group and 46.45% in the placebo group, as per CSPMS. The mean improvement between the groups was not significant: 60.36% in the Homoeopathy group and 48.66% in the placebo group. The mean score of quality of life, assessed using the ‘Patient’s Global Impression of Change Scale,’ was 2.29 ± 1.90 quality of life in the Homoeopathy group and 2.93 ± 2.28 in the placebo group. There was 27.95% more improvement in the Homoeopathy group, as compared to the placebo group. Among the most used medicines were Rhus toxicodendron (n = 19) 28.8%, Calcarea carbonica (n = 7) 10.6%, Kalmania latifolia (n = 7) 10.6% and Paris quadrifolia (n = 8) 12.1%. Conclusion: Homoeopathic medicines are effective in management of acute pain due to cervical spondylosis.

Keywords: Cervical spondylosis, Cervical Spondylosis Pain Management Scale, Homoeopathy, Pain, Patient’s Global Impression of Change Scale, Randomised controlled trial

Introduction

Cervical spondylosis is a degenerative disorder of cervical spine, intervertebral discs, ligaments and cartilaginous material.[1] The main aetiology of cervical spondylosis is age-related disc degeneration and sedentary occupation. However, there are few exceptions where spinal injuries to the discs can augment the degenerative process in younger patients.[2] Cervical spondylosis can be classified into three clinical syndromes: Type I syndrome (cervical radiculopathy), Type II syndrome (cervical myelopathy) and Type III syndrome (axial joint pain). The first two reflect neurologic involvement, whereas the third represents painful joint dysfunction. There is often overlap between these syndromes, which can coexist simultaneously.[3] Cervical spondylosis can be mechanical and metabolic both.[4] The most common symptoms of cervical spondylosis include intermittent, persistent neck and shoulder pain. The pain is quite often associated with stiffness and numbness and may radiate to the affected nerve root. Pain may also radiate

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to the shoulders and occiput. Many patients present with interscapular pain, pain in the arm, forearm and/or hand. The significant radiological changes noted in cervical spondylosis are (a) narrowing of disc space, (b) presence of osteophytes arising from the disc margins and (c) osteoarthritic changes in the posterior zygapophyseal joints. Most people with spondylotic changes of the cervical spine on radiographic imaging remain asymptomatic, with 25% of individuals under the age of 40, 50% of individuals over the age of 40 and 85% of individuals over the age of 60 showing some evidence of degenerative changes. The most frequently affected levels are C6–C7, followed by C5–C6. Symptomatic cervical spondylosis most commonly presents as neck pain. In the general population, the point prevalence of neck pain ranges from 0.4% to 41.5%, the 1-year incidence ranges from 4.8% to 79.5% and lifetime prevalence may be as high as 86.8%.[5,6] Cervical spondylosis is usually diagnosed on clinical grounds alone. Neurological change should always be sought in the upper and lower limbs, but objective changes occur only when spondylosis is complicated by myelopathy or radiculopathy or when unrelated causes such as disc prolapse, thoracic outlet obstruction, brachial plexus disease, malignancy or primary neurological disease are present. The diagnosis of cervical spondylosis comprises physical examination: checking the range of motion and reflexes; imaging tests: neck X-ray, computed tomography scan, magnetic resonance imaging and myelography and nerve function tests: electromyography and nerve conduction study.[7,8] Non-operative medical management which is available for cervical spondylosis includes non-steroidal anti-inflammatory drugs, muscle relaxants, analgesics, antidepressants and anticonvulsants. Physiotherapy procedures such as transcutaneous electrical nerve stimulator and cervical traction and physical application modalities such as heat and cold are common treatments for cervical spondylosis in the modern system of medicine.

Individualised homoeopathic medicines have better results in relieving neck pain in cervical spondylosis patients.[9] Another study, using bowel nosode group of medicines on the basis of corresponding microorganism found in stool culture, also reflected its usefulness in relieving symptoms of cervical spondylosis,[10] but these studies have methodological flaws such as randomisation and difference in group size.

In a previous study conducted by the Central Council for Research in Homoeopathy (CCRH) from June 2009 to June 2010,[11] the effectiveness of homoeopathic fifty millisimal (LM)-versus-centesimal (CM) potencies in reducing pain due to cervical spondylosis was assessed. LM potencies were found better than CM potencies for pain management of cervical spondylosis.[11] As no double-blind placebo-controlled trial was undertaken by the council so far, this study was undertaken with predefined Homoeopathic medicines in centesimal potencies as intervention.

**METHODS**

**Study design**

This was a multicentre, prospective, double-blind randomised placebo-controlled clinical trial. The investigators from seven study centres were given training before initiation of the study. The investigators were the regular research officers of the council. The approval of the study protocol was taken by the Ethical Committee of the council.

**Ethical statement**

All procedures were in accordance with the ethical standards of the responsible committee on human experimentation and with the Helsinki Declaration[12] of 1975 and Good Clinical Practices India.[13] The study was registered with CTRI: CTRI/2011/12/002270 (dated 22 December 2011). Written informed consent from the participants was obtained before enrolling them in the study.

**Study setting**

The study was conducted at seven centres under CCRH: Drug Standardisation Ext. Unit, Hyderabad; Regional Research Institute (H), Mumbai; Central Research Institute (H), Jaipur; National Homoeopathy Research Institute In Mental Health, Kottayam; Dr. D P Rastogi Central Research Institute (H), Noida; Regional Research Institute (H), Gudivada; and Clinical Research Unit (H), Puducherry.

**Participants**

Inclusion criteria for the patients were as follows:

- Male and female patients between 30 and 60 years, with a chief complaint of neck pain including pain in the suboccipital and interscapular regions for the last 2 weeks, having one or more episodes of neck pain and neck stiffness attack per month on average for at least 3 months, with positive radiological findings for cervical spondylosis; pain intensity of minimum 4 as per Visual Analogue Scale (VAS). Patients not on anti-inflammatory or any other therapy in the past 1 week, which is known to affect the study outcome.

Patients were excluded for any of the following reason:

- Cervical myelopathy or radiculopathy; patients with neck pain and normal X-ray findings, patients taking physiotherapy, those having neck trauma/fracture/history of surgery/congenital spinal abnormalities, any systemic disease of bones and joints, other non-specific lesions: acute neck strain, postural neck ache or whiplash injury, any systemic disease such as hypertension, diabetes mellitus, cardiovascular or cerebrovascular disease; inability to comply with the study protocol, alcoholics or drug users including psychiatric disease; pregnant and lactating women, patients deemed ineligible by an investigator and patients unwilling to sign the written informed consent form.

**Sample size estimation**

Assuming 50% (P1) improvement in the medicinal group and 25% (P2) improvement in the placebo group, the required sample size for this study was 116 (58/group) with α = 0.05 and power 80%. Including dropout rate of 20%, the total sample size required was 140 (70/group). As this study was conducted...
at 7 centres, 20 recruitments (10/group) were required to be done per centre.

**Randomisation**
Randomisation was done using a computer-based software www.randomizer.org. After the final selection of medicine, Group 1 was dispensed intervention from Series I and Group 2 from Series II. The groups formed were randomly assigned for either series based on the randomly generated codes made available from the above-mentioned software. The coding of Series I and Series II was done by the pharmacist at headquarters. Patient’s enrolment number was used for the purpose of randomisation. The initial randomisation was maintained during all follow-up visits. Randomisation chart was available with the investigator and pharmacist. The placebo group and medicine group were coded as Series I and Series II, respectively, at four study centres, whereas at the other three study centres, the placebo group and verum group were coded as Series II and Series I, respectively.

**Screening**
Investigations carried out to screen the eligibility of the patients were as follows: erythrocyte sedimentation rate, C-reactive protein, rheumatoid factor, serum calcium, serum phosphate, serum alkaline phosphates and X-ray cervical spine up to C7.

**Intervention**
Two series of homoeopathic medicines were used which were procured from GMP-compliant licensed homoeopathic pharmaceutical company approved by the council. One comprised verum, i.e., homoeopathic medicines in 30c dilutions, and the other comprised identical matching placebo.

Based on the outcome of the previous studies and taking into consideration the acute totality of pain of cervical spondylosis, the following remedies were shortlisted for the Homoeopathic arm in the study: (1) *Paris quadrifolia*, (2) *Calcarea carbonica*, (3) *Gelsemium sempervirens*, (4) *Cocculus indicus*, (5) *Cimicifuga racemosa*, (6) *Rhus toxicodendron*, (7) *Causticum*, (8) *Radium bromide*, (9) *Kalmia latifolia* and (10) *Lachnanthes tinctoria*. Selection of medicine was done after case taking based on acute totality, out of predefined medicines. The indicated medicine in 30c potency or identical matching placebo was given (4 pills of size no. 30). Three doses were given at 6 hours intervals daily, for 7 days.

**Outcomes**
The primary outcome of the study was to evaluate the effectiveness of predefined homoeopathic medicines in cervical spondylosis pain using the Cervical Spondylosis Pain Management Scale (CSPMS) on the eighth day of treatment. Assessment of pain and stiffness was done using a VAS, which is a patient-oriented scale. To avoid any outcome assessment bias, this scale was filled daily by the patients themselves for 8 days. This was a 10 point scale marked as 0–10 where ‘0’ indicates ‘no pain’ and ‘10’ indicates ‘worst possible pain’. Similarly, for stiffness, ‘0’ indicates ‘no stiffness’ and ‘10’ indicates ‘the worst possible stiffness’. For limitation of movement and tenderness, CSPMS was used. For quality of life, the Patient’s Global Impression of Change Scale was used.

**Statistical analysis**
Statistical analysis was done using statistical software of IBM SPSS 20.0 version IBM SPSS (statistical package for social sciences) statistics collaboration and deployment services, USA(www.ibm.com/products/SPSS-statistics).

Data were expressed as number (%) and mean ± standard deviation. Independent samples t-test and Chi-square test were used to compare the medicine and placebo groups at baseline. The Friedman test was used for group differences at the baseline, 3rd and 8th day of follow-up (pre- and post-treatment data). As the data showed non-normal or skewed distribution, non-parametric test was used. Mann–Whitney test was used for analysing patient’s global impression of change.

**Results**
Out of 498 screened cases, 136 cases (36 males and 100 females) who fulfilled the inclusion criteria comprising the Homoeopathy 

(n = 67) and placebo (n = 69) groups were enrolled in the study. However, two cases dropped out, and 134 cases that completed the follow-ups were analysed for study [Figure 1]. The mean age for the Homoeopathy group was 45.7 ± 7.6 years and for the placebo group was 45.9 ± 8.9 years [Table 1]. The baseline characteristics for the patients enrolled in the study are given in Table 1.

Figures 2 and 3 depict the pain reduction on the VAS scale. When percentage change from baseline to the eighth day for individuals was computed, marked improvement 53% was observed in the Homoeopathy group, and 47.1% in the placebo group. Although statistically significant difference could not be found between both the groups (P = 0.283), more patients were improved (markedly and moderately) in all aspects with Homoeopathy than with placebo [Table 2].

The mean improvement in the homoeopathy group was 60.36%, as compared to only 48.66% in the placebo group. However, statistically significant difference could not be found between both the groups (P = 0.099) [Table 3].

Using CSPMS, in the Homoeopathy group, there was 56.18% improvement in ‘pain’, while in the placebo group, there was 46.45% improvement. In ‘stiffness’, 55.70% cases were improved in the Homoeopathy group, while in the placebo group, 48.75% improvement was seen. “Limitation of movement” was relieved in 65.97% cases in the homoeopathy group, while up to 57.73% in the placebo. “Tenderness” too was improved in 68.67% cases in the treatment group, as opposed to 51.28% in the control group [Table 4].

Regarding quality of life of patients which was assessed using the ‘Patient’s Global Impression of Change Scale’
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Excluded- 362
Reasons for exclusion-
1) On long term medication for any disease
2) Not willing to sign the written informed consent
3) Suffering from any systemic disease

Assessed for eligibility (n = 498)

Enrolment- 136 cases (Males 36 and Females 100)

Randomized (n = ) Homoeopathy (n = 67) and Placebo (n = 69)

Allocated to intervention (n = 67) (Homoeopathic medicine)
Received allocated intervention
(Homoeopathic medicine)
coded as series I:
- RRI(H), Mumbai (n = 10)
- CR(R), Jaipur (n = 6)
- DDPRCRI, Noida (n = 10)
Received allocated intervention
coded as series II:
- DSU(Ext. unit), Hyderabad (n = 10)
- NHRIMH Kottayam (n = 10)
- RRI(H), Gudivada (n = 10)
- CRU(H), Puducherry (n = 11)

Allocated to intervention (n = 69) (Identical Placebo)
Received allocated intervention
(Identical Placebo) coded as series I :
- DSU(Ext. unit), Hyderabad (n = 10)
- NHRIMH Kottayam (n = 10)
- RRI(H), Gudivada (n = 10)
- CRU(H), Puducherry (n = 11)
Received allocated intervention
coded as series II :
- RRI(H), Mumbai (n = 10)
- CRU(H), Jaipur (n = 8)
- DDPRCRI, Noida (n = 10)

Lost to follow-up (n = 1)

Analysed (n = 66)

Lost to follow-up (n = 1)

Analysed (n = 68)

Figure 1: Study flowchart

Figure 2: Reduction of pain on Visual Analogue Scale

(0–10 scale, where ‘0’ was ‘much better’ and ‘10’ was ‘much worse’ on scale), the mean score was 2.29 ± 1.90 in the Homoeopathy group, whereas in the placebo group, the mean score was 2.93 ± 2.28. When improvement in both the groups was compared, there is 27.95% more improvement in the Homoeopathy group than the placebo group, although that was not statistically significant [Table 5].

The most commonly indicated medicines were *Rhus toxicodendron* (n = 19; 28.8%), *Calcarea carbonica* (n = 7; 10.6%), *Kalmia latifolia* (n = 7; 10.6%) and *Paris quadrifolia* (n = 8; 12.6%) [Table 6].

**Discussion**

Over the years, many studies have shown the efficacy of homoeopathic medicines in cases of cervical spondylosis. The published literatures, including case reports and case studies in peer-reviewed journals indicate the efficacy of Homoeopathy in cervical spondylosis.[9,14] The result of this study is in line with another study which demonstrated that with *Calcarea fluoricum* (in various potencies) given to 154 patients on the basis of few pathological symptoms, clinical improvement was 60.38% as compared to 48% improvement on the basis of mental and physical generals and 12.8% improvement on the basis of totality of the symptoms.[9]

On comparing the improvement percentage between both the groups, it has been observed that the percentage improvement was more in the homoeopathy group than in the placebo group.

The study has given a platform for future studies, but with longer follow-up period. The limitation of this study was that the follow-up period of 8 days only, which was too short to bring noticeable, significant changes in the patients. Follow-up period of 6 months would have been ideal and given scope for proper assessment of cases, thus leading to more discernible changes in the outcome. Another limitation was that, as per the protocol, the investigators...
involved in the study were allowed to prescribe only predefined homoeopathic remedies in 30c potency, which contradicts the routine homoeopathic practice where there could be requirement of change of medicine and potency in prescription.

Further, after selecting a medicine for patients at baseline, the investigators were supposed to continue the same medicine during follow-up period, which contradicts the routine homoeopathic practice where there could be requirement of change in prescription. It was observed in one of the reviews that, often, homoeopaths do not find the correct remedy at once and/or change the remedy as the clinical picture changes. In case of a double-blind trial, a homoeopathic practitioner often encounters the challenge due to any three possibilities, namely a failure to reach correct similimum, any symptom shift in totality of symptoms or patient being a participant of a placebo group.\[15\]

It is also worth mentioning that since the patients in the placebo group also underwent the homoeopathic case recording procedure, which involved detailed consultation, the procedure might have contributed considerably to a possible treatment effect, thus decreasing the likelihood of identifying differences between the groups.\[16\]

In the present study, double-blind, placebo-controlled methodology was adopted, which is the gold standard in conventional medicine for clinical trials using single-drug intervention. However, it seems that this methodology might be a constraint for achieving the sample size, as for finding patients requiring a particular remedy, a large number of patients need to be screened as also reflected in other homoeopathic studies.\[17\] This could not be made possible in this study.

Based on this study, a future RCT study with flexibility to change the potency as per the requirement of the case when the pathological base prescription is to be given is advisable. Eight-day follow-up period being very less, it is suggested that a follow-up period of at least six months would lead to a better outcome.

**Table 1: Baseline information**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Homoeopathy group (n=67)</th>
<th>Placebo group (n=69)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17 (25.8)</td>
<td>19 (26.5)</td>
<td>0.925*</td>
</tr>
<tr>
<td>Female</td>
<td>50 (74.2)</td>
<td>50 (73.5)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>45.7±7.6</td>
<td>45.9±8.9</td>
<td>0.866*</td>
</tr>
<tr>
<td>Symptoms present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td>66 (100)</td>
<td>68 (100)</td>
<td>0.548*</td>
</tr>
<tr>
<td>Stiffness</td>
<td>62 (93.9)</td>
<td>64 (94.1)</td>
<td>0.913*</td>
</tr>
<tr>
<td>Limitation of movement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement possible</td>
<td>20 (30.3)</td>
<td>18 (26.5)</td>
<td>0.763*</td>
</tr>
<tr>
<td>Restricted movement</td>
<td>26 (39.4)</td>
<td>31 (45.6)</td>
<td></td>
</tr>
<tr>
<td>Movement impossible</td>
<td>20 (30.3)</td>
<td>19 (27.9)</td>
<td></td>
</tr>
<tr>
<td>Extension (side)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement possible</td>
<td>23 (34.8)</td>
<td>23 (33.8)</td>
<td>0.972*</td>
</tr>
<tr>
<td>Restricted movement</td>
<td>22 (33.3)</td>
<td>24 (35.3)</td>
<td></td>
</tr>
<tr>
<td>Movement impossible</td>
<td>21 (31.8)</td>
<td>21 (30.9)</td>
<td></td>
</tr>
<tr>
<td>Side bending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement possible</td>
<td>19 (28.8)</td>
<td>18 (26.5)</td>
<td>0.765*</td>
</tr>
<tr>
<td>Restricted movement</td>
<td>26 (39.4)</td>
<td>31 (45.6)</td>
<td></td>
</tr>
<tr>
<td>Movement impossible</td>
<td>21 (31.8)</td>
<td>19 (27.9)</td>
<td></td>
</tr>
<tr>
<td>Rotation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement possible</td>
<td>9 (13.6)</td>
<td>14 (20.6)</td>
<td>0.564*</td>
</tr>
<tr>
<td>Restricted movement</td>
<td>27 (40.9)</td>
<td>26 (38.2)</td>
<td></td>
</tr>
<tr>
<td>Movement impossible</td>
<td>30 (45.5)</td>
<td>28 (41.2)</td>
<td></td>
</tr>
<tr>
<td>Tenderness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertebral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>11 (16.7)</td>
<td>15 (22.1)</td>
<td>0.430*</td>
</tr>
<tr>
<td>Present</td>
<td>55 (83.3)</td>
<td>53 (77.9)</td>
<td></td>
</tr>
<tr>
<td>Trapezius</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>28 (42.4)</td>
<td>31 (45.6)</td>
<td>0.712*</td>
</tr>
<tr>
<td>Present</td>
<td>38 (57.6)</td>
<td>37 (54.4)</td>
<td></td>
</tr>
</tbody>
</table>

*Independent samples t-test applied, *Chi-square test applied

**Table 2: Percentage (%) change from baseline to 8th day for individuals**

<table>
<thead>
<tr>
<th>Improvement status</th>
<th>Homoeopathy (%)</th>
<th>Placebo (%)</th>
<th>Total (%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marked improvement</td>
<td>35 (53.0)</td>
<td>32 (47.1)</td>
<td>67 (50.0)</td>
<td>0.283*</td>
</tr>
<tr>
<td>Moderate improvement</td>
<td>7 (10.6)</td>
<td>2 (2.9)</td>
<td>9 (6.7)</td>
<td></td>
</tr>
<tr>
<td>Mild improvement</td>
<td>9 (13.6)</td>
<td>9 (13.2)</td>
<td>18 (13.4)</td>
<td></td>
</tr>
<tr>
<td>Not significant</td>
<td>7 (10.6)</td>
<td>12 (17.6)</td>
<td>19 (14.2)</td>
<td></td>
</tr>
<tr>
<td>Status quo</td>
<td>7 (10.6)</td>
<td>9 (13.2)</td>
<td>16 (11.9)</td>
<td></td>
</tr>
<tr>
<td>Worse</td>
<td>1 (1.5)</td>
<td>4 (5.4)</td>
<td>5 (3.7)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66 (100.0)</td>
<td>68 (100.0)</td>
<td>134 (100.0)</td>
<td></td>
</tr>
</tbody>
</table>

*Chi-square test
In spite of all the constraints of a double-blind RCT design, this study has shown a positive response of homeopathic medicines in allaying the cervical spondylosis pain in comparison to placebo within the duration of one week, and opened the avenue for more work on this subject.

**Conclusion**

Homoeopathic intervention with predefined medicines is effective in managing acute pain due to cervical spondylosis. Further studies can be taken up with longer follow-ups, to show the efficacy of homeopathic medicines in cervical spondylosis pain management.

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**Table 3: Comparison of the distribution of percentage (%) change between the two groups**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Mean (%)±SD</th>
<th>Mean difference</th>
<th>95% CI of the difference</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homoeopathy (n=66)</td>
<td>Placebo (n=68)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60.36±37.35</td>
<td>48.66±43.89</td>
<td>11.71</td>
<td>-2.24-25.65</td>
<td>0.099*</td>
</tr>
</tbody>
</table>

*Independent samples t-test

**Table 4: Statistical analysis for comparison of pre-post data of both groups**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Visit</th>
<th>Homoeopathy group (n=66)</th>
<th>Placebo group (n=68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Baseline</td>
<td>7.44±1.97</td>
<td>61.68*</td>
</tr>
<tr>
<td></td>
<td>3rd day</td>
<td>5.74±2.08</td>
<td>5.96±1.90</td>
</tr>
<tr>
<td></td>
<td>8th day</td>
<td>3.26±3.29</td>
<td>4.00±3.42</td>
</tr>
<tr>
<td>Stiffness</td>
<td>Baseline</td>
<td>6.59±2.86</td>
<td>55.70*</td>
</tr>
<tr>
<td></td>
<td>3rd day</td>
<td>5.11±2.67</td>
<td>5.10±2.37</td>
</tr>
<tr>
<td></td>
<td>8th day</td>
<td>2.92±3.32</td>
<td>3.28±3.31</td>
</tr>
</tbody>
</table>

Friedman test was applied to assess the changes from baseline to 3rd-day and 8th-day follow-ups for CSPMS. Reason for applying nonparametric test: CSPMS data. CSPMS: Due to non-normal and ordinal data/Likert scale, SD: Standard deviation

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**Table 5: Patients’ global impression of change on 8th day**

<table>
<thead>
<tr>
<th>Patients’ global impression of change on 8th day</th>
<th>Homoeopathy group (n=66)</th>
<th>Placebo group (n=68)</th>
<th>Percentage difference of improvement in both groups</th>
<th>P</th>
<th>Effect size (Cohen’s d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean±SD</td>
<td>2.29±1.90</td>
<td>2.93±2.28</td>
<td>27.95</td>
<td>0.123*</td>
<td>0.304963</td>
</tr>
</tbody>
</table>

*Mann–Whitney test was applied. SD: Standard deviation
Acknowledgement
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Conflicts of interest
None declared.

REFERENCES
Eficacia de la terapia homeopática en el manejo del dolor de la espondilosis cervical: Un ensayo controlado aleatorizado con placebo doble ciego

Antecedentes: Se sabe que los medicamentos homeopáticos son eficaces para aliviar el dolor y otros síntomas problemáticos de pacientes que sufren de espondilosis cervical. Objetivo: El objetivo principal era evaluar la eficacia de los medicamentos homeopáticos predefinidos en el manejo del dolor de la espondilosis cervical utilizando la Escala de Manejo del Dolor de Espondilosis Cervical (CSPMS). Métodos: De abril de 2012 a mayo de 2013 se llevó a cabo un ensayo clínico multicéntrico aleatorizado controlado con placebo, doble ciego y aleatorizado. Resultados: se inscribieron 67 casos en el grupo Homeopatía y 69 en el grupo placebo. Se analizaron 134 casos que completaron el seguimiento. La mejoría del dolor fue del 56.18% en el grupo de homeopatía y del 46.45% en el grupo placebo, según el CSPMS. La mejoría media entre los grupos no fue significativa: 60.36% en el grupo de Homeopatía y 48.66% en el grupo placebo. La puntuación media de calidad de vida, evaluada mediante la escala de la impresión global del cambio del paciente, fue de 2.29 ± 1.90 en el grupo de Homeopatía y de 2.93 ± 2.28 en el grupo de placebo. Hubo un 27.95% más de mejora en la calidad de vida en el grupo de Homeopatía, en comparación con el grupo de placebo. Entre los medicamentos más utilizados se encontraban Rhus toxicodendron (n = 19) 28.8%, Calcarea carbonica (n = 7) 10.6%, Kalmia latifolia (n = 7) 10.6% y Paris quadrifolia (n = 8) 12.1%. Conclusión: Los medicamentos homeopáticos son eficaces en el manejo del dolor agudo debido a la espondilosis cervical.
Wirksamkeit der Homöopathischen Therapie bei Zervikaler Spondylose Pain Management: A Randomized Double-Blind Placebo-Kontrollierte Studie