

Manual Therapy, Physical Therapy, or Continued Care by a General Practitioner for Patients with Neck Pain A Randomized, Controlled Trial

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FROM ABSTRACT:

Background:

Neck pain is a common problem, but the effectiveness of frequently applied conservative therapies has never been directly compared.

Objective:

To determine the effectiveness of manual therapy, physical therapy, and continued care by a general practitioner.

Design:

Randomized, controlled trial.

Setting:

Outpatient care setting in the Netherlands.

Patients:

183 patients, 18 to 70 years of age, who had had nonspecific neck pain for at least 2 weeks.

Intervention:

6 weeks of manual therapy (specific mobilization techniques) once per week, physical therapy (exercise therapy) twice per week, or continued care by a general practitioner (analgesics, counseling, and education).

Measurements:

Treatment was considered successful if the patient reported being "completely recovered" or "much improved" on an ordinal six-point scale.

Physical dysfunction, pain intensity, and disability were also measured.

Results:

At 7 weeks, the success rates were 68.3% for manual therapy, 50.8% for physical therapy, and 35.9% for continued [physician] care.

Statistically significant differences in pain intensity with manual therapy compared with continued care or physical therapy ranged from 0.9 to 1.5 on a scale of 0 to 10.

Disability scores also favored manual therapy, but the differences among groups were small.

Manual therapy scored consistently better than the other two interventions on most outcome measures.

Physical therapy scored better than continued [physician] care on some outcome measures, but the differences were not statistically significant.

Conclusion:

In daily practice, manual therapy is a favorable treatment option for patients with neck pain compared with physical therapy or continued care by a general practitioner.

Editors' Notes:

"Neck pain is common among primary care patients."

"Evidence on the effectiveness of therapies for neck pain is limited."

"A previous randomized, controlled trial [Koes, 1992] suggested benefits from manual therapy and physical therapy."

"This randomized, controlled trial of manual therapy, physical therapy, and continued care by a doctor confirms the superiority of manual therapy and physical therapy over continued [physician] care."

"At 7 weeks, 68.3% of patients in the manual therapy group reported resolved or much improved pain, compared with 50.8% of patients in the physical therapy group and 35.9% of patients in the continued [physician] care group."

Clinical Implications: "Primary care physicians should consider manual therapy when treating patients with neck pain."

THESE AUTHORS ALSO NOTE:

Between 10% and 15% of the general population have neck pain.

Neck pain peaks at about 50 years of age.

Neck pain is more common in women than in men.

Neck pain can be severe and disabling.

Neck pain can be accompanied with headache, arm pain, and dizziness.

Most often, the cause of neck pain is unclear, even after history and examination.

These authors note that "Physical therapists can specialize in passive manual (or 'hands-on') techniques, including mobilization or manipulation (high-velocity thrust techniques), also referred to as manual therapy."

"According to the International Federation of Orthopedic Manipulative Therapies, 'Orthopedic manipulative (manual) therapy is a specialization within physical therapy and provides comprehensive conservative management for pain and other symptoms of neuro-musculo-articular dysfunction in the spine and extremities'."

This study is a randomized, controlled trial to compare the effectiveness of manual therapy, physical therapy, and continued care by a general practitioner in patients with nonspecific neck pain.

Patients in this study were between ages 18 and 70 years, with pain or stiffness in the neck for at least 2 weeks, and no involvement in litigation.

[Therefore, these patients were acute non trauma cases.]

MANUAL THERAPY

The manual therapy was defined as the "use of passive movements to help restore normal spinal function" including muscular mobilization techniques, specific articular mobilization techniques to improve joint function and decrease restrictions in movement at single or multiple segmental levels in the cervical spine, and stabilization techniques to improve postural control and movement patterns.

Joint mobilization was defined as "a form of manual therapy that involves low-velocity passive movements within or at the limit of joint range of motion."

"Spinal manipulations (low-amplitude, high-velocity thrust techniques) were not included in this protocol."

Forty-five minute **[WOW]** treatment sessions were scheduled once per week, for a maximum of six treatments.

PHYSICAL THERAPY

The physical therapy used consisted primarily of active exercise, therapy exercises, postural exercises, and stretching.

“Manual traction or stretching, massage, or physical therapy methods, such as interferential current or heat applications, could precede the exercise therapy.”

“Thirty-minute treatment sessions were scheduled twice per week for a maximum of 12 treatments.”

CONTINUED CARE BY A GENERAL PRACTITIONER

This care included advice on self-care heat and home exercises, ergonomics advice such as pillow size and work positions, and an educational book containing ergonomic advice and exercises.

Nonsteroidal anti-inflammatory drugs were prescribed for some.

OUTCOME MEASURES

The primary outcome focused on

- (1) perceived recovery
- (2) pain
- (3) functional disability

(1) Perceived recovery was rated on a scale ranging from “much worse” to “completely recovered.” Success was defined as “completely recovered” or “much improved.”

(2) Pain severity was rated on a 0 –10 scale with 0 being no pain and 10 being the most severe pain.

(3) Functional disability was measured according to the Neck Disability Index.

RESULTS

A total of 183 patients were randomly assigned: 60 to manual therapy, 59 to physical therapy, and 64 to continued medical care.

All patients had multiple symptoms and signs, their mean age was 45 years, and approximately 60% were women.

“Most patients had had neck pain for 12 weeks or fewer, and many had had previous episodes of neck pain.”

The average pain scored 7.6.

The mean Neck Disability Index score was 14.5 points.

The median number of visits was 6 in the manual therapy group, 9 in the physical therapy group, and 2 in the continued physician care group.

ADVERSE REACTIONS

Minor, benign, short-term adverse reactions were reported as follows:

Adverse Reaction	Manual Therapy Gr n = 60	Physical Therapy Gr n = 59	Physician Gr n = 64
Increased Neck Pain For > 2 days	11 = 18%	4 = 7%	3 = 5%
Headache	17 = 28%	19 = 32%	11 = 17%
Arm Pain/Paresthesia	8 = 13%	9 = 15%	4 = 6%
Dizziness	6 = 10%	7 = 12%	4 = 6%

"The success rate at 7 weeks was twice as high for the manual therapy group (68.3%) as for the continued care group (35.9%)." (32.4 percentage points).

"Physical dysfunction, pain, and functional disability were less severe in the manual therapy group than in the continued care and physical therapy groups."

"At 3 weeks, more patients worsened with continued care (n = 9) than with physical therapy (n = 3) or manual therapy (n = 0)." **[WOW!]**

"The success rates for manual therapy were statistically significantly higher than those for physical therapy."

"Manual therapy scored better than physical therapy on all outcome measures..."

"Range of motion improved more markedly for those who received manual therapy or physical therapy than for those who received continued care."

General health perception showed a statistically significant difference in favor of manual therapy compared with continued care and physical therapy.

"Patients receiving manual therapy had fewer absences from work than patients receiving physical therapy or continued care."

"Manual therapy and physical therapy each resulted in statistically significantly less analgesic use than continued [physician] care."

DISCUSSION

“Manual therapy was more effective than continued [physician] care, and our results consistently favored manual therapy on almost all outcome measures.”

“Although physical therapy scored slightly better than continued [physician] care, most of the differences were not statistically significant.”

“The postulated objective of manual therapy is the restoration of normal joint motion, was achieved, as indicated by the relatively large increase in the range of motion of the cervical spine.”

This study confirms that of Koes (1992), “that manual therapy and physical therapy are superior to continued [physician] care.”

“In the physical therapy and manual therapy groups, the hands-on approach, frequent visits, and opportunities for intensive patient–therapist interaction may have contributed to the observed [superior] effects.” **[WOW!, Very Important]**

“The differences in effect between the physical therapy and manual therapy groups, however, suggest that the superiority of manual therapy cannot be explained by nonspecific effects alone.” **[Again, WOW!]**

“In our study, mobilization, the passive component of the manual therapy strategy, formed the main contrast with physical therapy or continued care and was considered to be the most effective component.”

[WOW! This is very important because since the 1993 Mercy Document, passive care has been criticized as leading to “physician dependence” while this study showed superiority of passive treatment over active treatment].

“Manual therapy seems to be a favorable treatment option for patients with neck pain.”

KEY POINTS FROM DAN MURPHY

- (1) These patients had generalized nonspecific neck pain that was primarily acute and non traumatic.
- (2) These manual therapy patients were not manipulated, but mobilized to restore normal joint range of motion.
- (3) The mobilization techniques used did improve the cervical range of motion significantly.
- (4) The success rate for 6 visits of manual therapy over 7 weeks was 68%, meaning that 32% were not successful with that treatment and in that time frame.

- (5) Manual therapy was significantly superior to physical therapy, and physical therapy was clearly superior to physician care.
- (6) The physical therapy patients achieved significantly worse success rates while using twice the number of patient visits as manual therapy.
- (7) NOTE: The lead author of this study is a physical therapist.
- (8) The physical therapy was primarily active exercise, while the manual therapy was primarily passive joint mobilization.
- (9) VERY IMPORTANTLY, PASSIVE joint mobilization was significantly superior to ACTIVE exercise physical therapy.
- (10) NOTE: Physical therapists are trained to and do manipulate joints to improve "neuro-musculo-articular dysfunction in the spine and extremities." **[SCARY]**
- (11) Short term adverse reactions are common for all treatments groups, especially headaches.
- (12) Only the manual therapy group had no patients worse after 3 weeks of treatment, while physician care scored 9/64 worse = 14%.
- (13) INCREDIBLY, the high success rates of the manual therapy group was attributed to its hands-on, frequent visit, passive approach, ability to restore the cervical range of motion.
- (14) Manual therapy is a superior treatment for patients with neck pain.
- (15) Primary care physicians should consider manual therapy when treating patients with neck pain.