OMT for the Primary Care Physician

K. Turner Slicho, DO, MS
DO vs MD Office Experience

• **Background**: Osteopathic philosophy is consistent with an emphasis on primary care and suggests that osteopathic physicians may have distinctive ways of interacting with their patients.

• **Methods**: The National Ambulatory Medical Care Survey (NAMCS) was used to derive national estimates of utilization of osteopathic general and family medicine physicians during 2003 and 2004 and to examine the patient characteristics and physician-patient interactions of these osteopathic physicians.

• All analyses were performed using complex samples software to appropriately weigh outcomes according to the multistage probability sample design used in NAMCS and multivariate modeling was used to control for potential confounders.
Results:

- When weighted according to the multistage probability sample design used, the 6939 patient visits studied represented an estimated 341.4 million patient visits to general and family medicine specialists in the United States, including 64.9 million (19%) visits to osteopathic physicians and 276.5 million (81%) visits to allopathic physicians.

- Osteopathic physicians were a major source of care in the Northeast (odds ratio [OR], 2.94; 95% confidence interval [CI], 1.42–6.08), providing more than one-third of general and family medicine patient visits in this geographic region.
DO vs MD Office Experience

Results:

• Pediatric and young adult patients, Hispanics, and non-Black racial minority groups were less likely to visit osteopathic physicians.

• There were no significant differences between osteopathic and allopathic physicians with regard to the time spent with patients, provision of five common preventive medicine counseling services, or a focus on preventive care during office visits.

Conclusion:

• Osteopathic physicians are a major source of general and family medicine care in the United States, particularly in the Northeast. However, pediatric and young adult patients, Hispanics, and non-Black racial minorities underutilize osteopathic physicians.

• There is little evidence to support a distinctive approach to physician-patient interactions among osteopathic physicians in general and family medicine, particularly with regard to time spent with patients and preventive medicine services.
OBJECTIVE:

• To provide an "epidemiology" of somatic dysfunction, assessing prevalence and severity of somatic dysfunction encountered in the family practice setting, also characterizing physician use of OMT.

DESIGN:

• Retrospective analysis of Outpatient Osteopathic SOAP Note Form data collected in 1998 and 1999 by 20 osteopathic medical trainee-investigators under the supervision of seven site-based osteopathic physicians.

SETTING:

• Three university-based, osteopathic family practice clinics.
Use of OMT in the Primary Care Setting

RESULTS:

- 1331 patient encounters, 424 adult patients.
- The mean (SD) age of patients was 56.9 years (16.2 years), and 71% were women.
- The median number of days between repeat encounters was 29 days.
- Somatic dysfunction was diagnosed in 418 (31%) patient encounters, affecting a total of 1199 anatomic regions (2.9+/−1.2 anatomic regions per patient).
Use of OMT in the Primary Care Setting

RESULTS:

• Investigators used OMT in 335 (25%) patient encounters to treat a total of 952 anatomic regions (2.8+/−1.2 anatomic regions per patient).

• For women, the odds ratio for receiving OMT was 1.4 (95% confidence interval [CI], 1.0-2.2)

• Patients using analgesics, anti-inflammatory agents, or muscle relaxants, the odds ratio was 2.2 (95% CI, 1.2-4.1).
Use of OMT in the Primary Care Setting

RESULTS:

Immediately after OMT, investigators reported that patients' somatic dysfunction resolved or improved in a total of 747 (96%) anatomic regions and remained unchanged in 32 (4%) anatomic regions (P<.001). The authors used cluster analysis to classify anatomic regions by prevalence and severity of somatic dysfunction.

CONCLUSION:

Somatic dysfunction was diagnosed in almost one-third of patient encounters. In one-quarter of patient encounters, investigators used OMT.
Injury and Manipulation

• Estimates of the incidence of serious complications range from 1 per 2 million manipulations to 1 per 400,000.

• High velocity thrusting techniques

• Search criteria included osteopathy, however no adverse events from DO’s named in this study
Cervical Spine Injury by Practitioner

Objective:
• To study osteopathic manipulative treatment (OMT) of back pain and related symptoms during the third trimester of pregnancy.

Study design:
• A randomized, placebo-controlled trial was conducted to compare usual obstetrical care (UOBC) and OMT (UOBC+OMT), UOBC and sham ultrasound treatment (UOBC+SUT), and UOBC only. Outcomes included average pain levels and the Roland Morris-Disability Questionnaire (RMDQ) to assess back-specific functioning.
• The study protocol included any of the following treatment modalities: soft tissue, myofascial release, muscle energy, and range-of-motion mobilization.
OMT and Pregnancy

Results:

• Intention-to-treat analyses included 144 subjects. The RMDQ scores worsened during pregnancy; however, back-specific functioning deteriorated significantly less in the UOBC+OMT group (effect size, 0.72; 95% CI, 0.31-1.14; P=.001 vs. UOBC only; and effect size, 0.35; 95% CI, −0.06-0.76; P=.09 vs. UOBC+SUT). During pregnancy, back pain decreased in the UOBC+OMT group, remained unchanged in the UOBC+SUT group, and increased in the UOBC only group, although no between-group difference achieved statistical significance.

Conclusion:

• Osteopathic manipulative treatment slows or halts the deterioration of back-specific functioning during the third trimester of pregnancy.
OMT and Chronic LBP

METHODS

• A randomized, double-blind, sham-controlled, 2×2 factorial design was used to study OMT and UST for short-term relief of nonspecific chronic low back pain. The 455 patients were randomized to OMT (n=230) or sham OMT (n=225) main effects groups, and to UST (n=233) or sham UST (n=222) main effects groups. Six treatment sessions were provided over 8 weeks.

• Intention-to- treat analysis was performed to measure moderate and substantial improvements in low back pain at week 12 (30% or greater and 50% or greater pain reductions from baseline, respectively). Five secondary outcomes, safety, and treatment adherence were also assessed.
OMT and Chronic LBP

• Patients receiving OMT were more likely than patients receiving sham OMT to achieve moderate and substantial improvements in low back pain at week 12.

• Back-specific functioning, general health, work disability specific to low back pain, safety outcomes, and treatment adherence did not differ between patients receiving OMT and sham OMT.
OMT and Chronic LBP

• Nevertheless, patients in the OMT group were more likely to be very satisfied with their back care throughout the study ($P < .001$).

• Patients receiving OMT used prescription drugs for low back pain less frequently during the 12 weeks than did patients in the sham OMT group (use ratio=0.66, 95% CI, 0.43-1.00; $P=.048$).

• Ultrasound therapy was not efficacious
OMT and Migraines in the Female Patient

Objectives:

• Migraine is one of the most prevalent neurological disorders in Europe, severely affecting ability to work and quality of life. Medical therapies are considered to be the “gold standard” of treatment. This study addresses osteopathic treatment for acute therapy or prophylactic therapy as an alternative to traditional therapies.

Design:

• Forty-two (42) female patients with migraine were randomized into an intervention group (n=21) and a control group (n=21). Outcomes were evaluated with three questionnaires before the treatment (t1) and 6 months later (t2).
OMT and Migraines in the Female Patient

• **Interventions:**

• The intervention group received five 50-minute osteopathic manipulative treatments (OMT) over a 10-week period.

• The type of applied OMT (manual, visceral, and/or cranial) was dependent on the particular osteopathic (diagnostic) findings in each patient.

• The control group did not receive OMT, sham treatment, or physical therapy. Patients of this group only filled the questionnaires. Both groups continued with previously prescribed medication.
OMT and Migraines in the Female Patient

Methods:
• The Migraine Disability Assessment (MIDAS) and Short Form–36 (SF-36) questionnaires as well as a German “pain questionnaire” were used to assess pain intensity, the impact of migraine on daily life and health-related quality of life (HRQoL), and the number of days subjects suffered from migraine.

Results:
• A significant ($p \leq 0.05$) improvement in terms of vitality, mental health, bodily pain, and physical role functioning was established in the OMT group. Improvement in the SF-36 domains of social role functioning, emotional role functioning, general health perceptions, and physical functioning was observed but the effects remained statistically insignificant.
• The total MIDAS score, pain intensity, and disturbance in occupation due to migraine as well as number of days of disablements were also significantly reduced.
• The control group showed insignificant differences in these areas.
Results: Three (3) of the eight HRQoL domains of the SF-36 form in the intervention group showed significant improvement (from t1 to t2), with a general betterment exhibited in the other domains. The total MIDAS score, pain intensity, and disturbance in occupation due to migraine as well as number of days of disablements were also significantly reduced. The control group showed insignificant differences in these areas.

Conclusions: This study affirms the effects of OMT on migraine headache in regard to decreased pain intensity and the reduction of number of days with migraine as well as working disability, and partly on improvement of HRQoL. Future studies with a larger sample size should reproduce the results with a control group receiving placebo treatment in a long-term follow-up.
Table 3. Health-Related Quality of Life Outcomes (SF-36 Scores Poled Positively on a Scale from 0 to 100) for t1 and t2 Comparing to the Representative Sample of the German National Health Survey\textsuperscript{13}

<table>
<thead>
<tr>
<th>Outcome measure</th>
<th>Intervention group (OMT)</th>
<th>Control group (no treatment)</th>
<th>German representative sample</th>
<th>p-Value for intervention group (OMT)</th>
<th>p-Value for control group (no treatment)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t1</td>
<td>t2</td>
<td>p-Value</td>
<td>t1</td>
<td>t2</td>
</tr>
<tr>
<td>Vitality</td>
<td>44.8\textsuperscript{**}</td>
<td>61.9\textsuperscript{**}</td>
<td>&lt;0.01</td>
<td>48.8</td>
<td>48.2</td>
</tr>
<tr>
<td>Mental health</td>
<td>61.9\textsuperscript{*}</td>
<td>70.9\textsuperscript{*}</td>
<td>0.05</td>
<td>67.2</td>
<td>63.8</td>
</tr>
<tr>
<td>Physical functioning</td>
<td>81.2</td>
<td>87.6</td>
<td>0.08</td>
<td>87.1</td>
<td>82.6</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>37.8\textsuperscript{*}</td>
<td>47.3\textsuperscript{*}</td>
<td>0.05</td>
<td>40.0</td>
<td>42.8</td>
</tr>
<tr>
<td>General health perceptions</td>
<td>53.1</td>
<td>61.9</td>
<td>0.14</td>
<td>49.4</td>
<td>52.9</td>
</tr>
<tr>
<td>Physical role functioning</td>
<td>51.2\textsuperscript{**}</td>
<td>76.3\textsuperscript{**}</td>
<td>&lt;0.01\textsuperscript{a}</td>
<td>48.8</td>
<td>51.4</td>
</tr>
<tr>
<td>Emotional role functioning</td>
<td>74.6</td>
<td>82.5</td>
<td>0.40\textsuperscript{*}</td>
<td>88.9\textsuperscript{*}</td>
<td>70.2\textsuperscript{*}</td>
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<tr>
<td>Social role functioning</td>
<td>66.7</td>
<td>74.3</td>
<td>0.32</td>
<td>62.5</td>
<td>63.2</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Nonparametric statistical tests.
\textsuperscript{*}Significant difference at $p \leq 0.05$.
\textsuperscript{**}Significant difference at $p \leq 0.01$.

SF-36, Short Form-36; t1, before the treatment; t2, 6 months later; OMT, osteopathic manipulative treatment.
Patients like OMT!

- Patient survey was used to measure and explain patient satisfaction and clinical outcomes associated with osteopathic manipulative treatment (OMT).

- Participating in the survey were 459 people who attended an ambulatory OMT specialty clinic from March 1998 through September 1998 and who had received OMT there at least twice previously.
Patients like OMT!

- Subjects perceived OMT to be highly efficacious (0.74 +/- 0.34) and reported significant relief from pain or discomfort (P < .001) and improvement in mobility (P < .001). Of all the respondents, 8.6% attributed an adverse reaction to OMT.

- Perception of OMT efficacy was significantly associated with all dimensions of patient satisfaction (P values ranged from less than .001 to .003). Relief from pain or discomfort was significantly associated with overall satisfaction (P < .001).
Patients like OMT!

- Females had greater reduction in pain or discomfort than males ($P = .001$).

- Respondents perceived significant community shortages of OMT services through primary care (-0.45 +/- 0.50; $P < .001$) and specialty (-0.35 +/- 0.54; $P < .001$) physicians, and reported significant dissatisfaction with insurance coverage for OMT services (-0.09 +/- 0.57; $P = .001$).

- These findings suggest the need for greater access to OMT services.
Quick Documentation Review

• OMT diagnosed by body region
• 10 regions
  • Head, Cervical, Thoracic, Lumbar, Sacrum, Pelvis, LE, UE, Rib cage, and Abdomen
• ICD-9 Codes: 739.0 - 739.9
• ICD-10 Codes: M99.0 - M99.09
Quick Documentation Review

• Objective Findings
  • Type 1: NSxRy
    • Occur in groups
    • Apex of group is the key segment to treat
    • Rotation occurs to the convexity of the curve
  • Type II: FRxSx or ERxSx
    • Isolated segments
    • Segment is significantly flexed or extended
Type 1 vs. Type 2

- Seated screening test
  - Locate posterior transverse process
  - Flex and extend the patient over this segment
  - No change: (Type 1) NSxRy
  - Improvement in Flexion: (Type 2) FRxSx
  - Improvement in Extension: (Type 2) ERxSx
Flexion Tests

• Tests for iliosacral or sacroiliac somatic dysfunction

  • Seated flexion test
    • a screening test that determines the side of sacroiliac somatic dysfunction (motion of the sacrum on the ilium).

  • Standing flexion test
    • a screening test that determines the side of iliosacral somatic dysfunction (motion of ilium on the sacrum).
Post Treatment Hydration

Objective:
- To determine whether there is a relationship between a patient’s hydration status before OMT for LBP and the outcome of that treatment.

Participants:
- Eight women and 11 men with LBP of 1 to 12 months duration.

Interventions:
- Both euhydrated and hypohydrated conditions were achieved in each participant by modifying water consumption for 36 hours before OMT sessions. Participants received 2 sessions of OMT, each in a different hydration condition and with a 1-week washout period in between.

Main Outcome Measures:
- Pre- and posttreatment visual analog scale scores for pain, number and severity of somatic dysfunction as scored on the somatic dysfunction severity scale, and number of asymmetric landmarks found on the osteopathic standing structural examination.
Results:

- Improvements in total and severe number of lumbar somatic dysfunction ($P=.001$ and $P=.013$, respectively) and number of asymmetric landmarks on standing structural examination ($P=.002$) were found to be greater in the euhydrated vs the hypohydrated condition.
- Participants had a mean of 2 fewer areas of post-treatment somatic dysfunction when euhydrated than when hypohydrated, and they had a mean decrease of 2 asymmetric landmarks on the standing structural examination when euhydrated but none when hypohydrated.
- OMT improved self-reported pain immediately after treatment regardless of hydration status.

Conclusion:

- Outcome measures improved for all participants, with greater improvement observed after participants were treated in the euhydrated condition than when in the hypohydrated condition. It is reasonable for clinicians to recommend that patients increase their hydration to optimize treatment.
“Every time you correct somatic dysfunction, you return to the autonomic nervous system the ability to make appropriate moment to moment decisions.”

Irvin Korr
References


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