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# Osteopathic manipulative treatment (OMT) use among osteopathic physicians in the United States

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## Abstract

**Context:** Updated data on the use of Osteopathic Manipulative Treatments (OMT) by osteopathic physicians in the United States is overdue. This data would provide an up-to-date point of reference for evaluating the current use of OMT as a distinguishing feature of the osteopathic profession.

**Objective:** To determine the prevalence of OMT use, barriers to its use, and factors that correlate with increased use.

**Methods:** The American Osteopathic Association (AOA) distributed its triannual survey on professional practices and preferences of osteopathic physicians, including questions on OMT, to a random sample of 10,000 osteopathic physicians in August 2018 through Survey Monkey (San Mateo, CA). Follow-up efforts included a paper survey mailed to nonrespondents one month after initial distribution and three subsequent email reminders. The survey was available from August 15, 2018 to November 5, 2018. The OMT questions focused on frequency of OMT use, perceived barriers, and basic demographic information of osteopathic physician respondents. Statistical analysis (including a one sample test of proportion, chi-square, and Spearman's rho) was performed to identify significant factors influencing OMT use.

**Results:** Of 10,000 surveyed osteopathic physicians, 1,683 (16.83%) responded. Of those respondents, 1,308 (77.74%) reported using OMT on less than 5% of their patients, while 958 (56.95%) did not use OMT on any of their patients. Impactful barriers to OMT use included lack of time, lack of reimbursement, lack of institutional/

practice support, and lack of confidence/proficiency. Factors positively correlated with OMT use included female gender, being full owner of a practice, and practicing in an office-based setting.

**Conclusion:** Our data suggest that OMT use among osteopathic physicians in the US continues to decline. Barriers to its use appear to be related to the difficulty that most physicians have with successfully integrating OMT into the country's insurance-based system of healthcare delivery. Follow-up investigations on this subject in subsequent years will be imperative in the ongoing effort to monitor and preserve the distinctiveness of the osteopathic profession.

**Keywords:** OMM; OMT; osteopathic manipulative medicine osteopathic manipulative therapy; osteopathic manipulative treatment.

The use of osteopathic manipulative treatment (OMT) is a feature that differentiates doctors of osteopathic medicine (DOs) from their doctors of medicine (MDs) counterparts. Its collective use or nonuse, therefore, is one indicator of the distinctiveness of the osteopathic profession. Unfortunately, various studies<sup>1,2</sup> during the past half century reveal that OMT use has been anything but widespread, steadily declining over time. A 2001 study<sup>2</sup> on OMT use in the US revealed that about half of osteopathic physicians used OMT on less than 5% of their patients, and about a quarter didn't use it at all. Furthermore, only 6.1% of DOs used OMT on 76–100% of their patients. Researchers have described the situation as a crisis among the osteopathic profession, potentially leading to OMT becoming a “lost art” if changes are not implemented.<sup>2,3</sup> The most recent published data<sup>2</sup> on national OMT use is more than 18 years old. The objective of this study is to provide updated information on this subject, specifically in three areas: the frequency of OMT use, barriers to its use, and factors that correlate with increased use.

The data in this study has several practical uses. First, it provides a way to monitor the effectiveness of current OMT instruction in both osteopathic medical schools and postgraduate training programs. Effective education in

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both domains has been implicated as a factor in predicting OMT use after training.<sup>4–9</sup> Second, it identifies current barriers to OMT use that could help national and state osteopathic organizations in their efforts to overcome these barriers. Third, the identification of variables associated with increased OMT use can inform osteopathic physicians and leaders on the best ways to implement OMT in practice.

## Methods

The American Osteopathic Association (AOA) conducts a survey every three years on the professional practices and preferences of osteopathic physicians to develop new educational activities and opportunities. For the 2018 survey, the AOA included questions developed by all three authors on the use of OMT and perceived barriers. Through a data use agreement, the AOA then shared with us data on the OMT questions and other demographic data for respondents. The survey was sent to 10,000 osteopathic physicians, randomly selected from the AOA's database.<sup>10,11</sup> The sample excluded DOs who were not in active medical practice, were retired, were in postdoctoral training, or were in the military. The sample included 5,426 primary care physicians (PCP) and 4,574 nonprimary care physicians (nonPCP). "Primary care" specialties referred to family medicine, internal medicine, neuromusculoskeletal medicine, pediatrics, urgent care, and geriatrics. This ratio of PCPs to nonPCPs is closely representative of national data, with approximately 56% of osteopathic physicians in primary care specialties nationwide.<sup>10</sup> The 10,000 physicians selected for the survey received an email from the AOA on August 15, 2018 with a link to the online survey via Survey Monkey (San Mateo, California). A paper version of the survey was mailed to nonrespondents on September 15, 2018. Follow-up emails with the link to the digital survey were sent on August 29, October 16, and October 26, 2018. The survey was available from August 15 to November 5, 2018.

The questionnaire asked about the physician's employment status (full-time vs. part-time), specialty, and whether their specialty was considered primary care. It also asked whether they used OMT on their patients and, if so, in what percentage of patients. The percentages of OMT use were divided into categories: 0–5%, 6–25%, 26–50%, 51–75%, or 76–100% of patients. Additionally, questions regarding barriers to OMT were posed, including lack of reimbursement, lack of time, lack of confidence or proficiency in the techniques, lack of applicability to specialty, and lack of institutional/practice support. The answers to the barrier questions were given according to a five-point Likert-type scale (5=strongly agree, 4=agree, 3=neutral,

2=disagree, 1=strongly disagree), with an option to write in a response under the category "other barriers." Specific demographics of the respondents were also queried: the physician's gender, location of current practice, patient volume, primary practice site (office vs. hospital), employment description (owner vs. employee), professional activities in which they spent at least 20% of their time (direct patient care vs. administrative activities) and practice setting (rural vs. urban).

Most of the research questions were of a descriptive nature. For those questions, a pivot table was used to provide proportions of each response. To determine which barriers to OMT use were statistically significant, a one sample test of proportions was used to compare the "Agree" and "Strongly Agree" answers with the "Disagree" and "Strongly Disagree" answers as compared to a hypothesized value of 50%. For the specific demographics at the end of the survey (e.g., gender, state of practice), the operating hypothesis was whether each of the variables impacted OMT use. Most of these compared a categorical variable with a dichotomous variable, and therefore a chi-square analysis was performed to detect the significance of the associations. The last question involving the specific demographics of each respondent compared an ordinal variable (patient volume) and a dichotomous variable (OMT use); therefore, the association was calculated with Spearman rho, a nonparametric test similar to a standard correlation.

## Results

Ultimately, 1,683 osteopathic physicians responded to the survey, for a response rate of 16.8%. Of the 1,683 respondents, 961 (57.1%) were men and 722 (42.9%) were women; 767 (45.6%) were PCPs. Respondents practiced medicine in a wide variety of locations, practice sites, and employment situations around the country.

Regarding the frequency of OMT use, 725 (43.05%) respondents reported that they used OMT to any degree, while 958 (56.95%) reported no use whatsoever. The frequency of

**Table 1:** Percent of patients on whom OMT is used.

Percent of patients on whom OMT is used	Percent of surveyed physicians reporting use at this level, n=1683
0	56.95
1–5	20.79
6–25	14.47
26–50	3.65
51–75	0.84
76–100	3.58

**Table 2:** Perceived barriers to OMT use.

Barrier	Percent of affirmative responses ("strongly agree"/"agree")
Lack of time	73.87
Lack of institutional/ practice support	41.47
Lack of confidence/ proficiency	40.23
Lack of reimbursement	38.14

**Table 3:** Variables associated with increased use of OMT.

Variable	p-Value
Female gender	6.32 <sup>-13</sup>
Office-based practice setting	5.51 <sup>-13</sup>
Full ownership of practice	0.025

OMT use among all surveyed physicians is depicted in Table 1. Combining the number of practitioners who self-reported no OMT use (958; 56.95%) with those who used on it less than 5% of patients (350; 20.79%), 1,308 (77.74%) respondents used OMT on less than 5% of their patients.

The data on perceived barriers to OMT use was next considered (Table 2). Statistically significant barriers included lack of reimbursement ( $p < 0.001$ ), lack of time ( $p < 0.001$ ), lack of institutional/practice support ( $p < 0.001$ ), and lack of confidence/proficiency ( $p < 0.05$ ). Lack of time appeared to be the most significant, with 1,243 (73.87%) physicians either responding "agree" or "strongly agree" that this was a barrier to their OMT use. Responses in the "other barriers" write-in section included: patient refusal ( $n = 13$  respondents), working in a clinic that lacks appropriate tables or other equipment ( $n = 12$ ), the physician being physically unable to perform OMT ( $n = 9$ ), physician disinterest or belief that its efficacy lacks evidence ( $n = 4$ ), facility of access to other health care professionals who provide manipulative therapy ( $n = 4$ ), nonuse in post-graduate training which carried over into practice ( $n = 3$ ), and poor medical school instruction ( $n = 2$ ). As all respondents were not given these answer options, they were not analyzed for statistical significance.

Finally, the significance of associations between demographic variables and OMT use was calculated (Table 3). Female gender ( $p = 6.32^{-13}$ ), an office-based practice setting ( $p = 5.51^{-13}$ ), and being a full owner of a practice ( $p = 0.025$ ) all had a statistically significant positive association with OMT use. There was no significant positive association between OMT use and region of practice ( $p = 0.23$ ), patient volume ( $p = 0.72$ ), and rural vs. urban practice setting ( $p = 0.14$ ).

## Discussion

In 2001, Johnson et al.<sup>2</sup> concluded, "Although OMT has been cited as a beneficial primary or adjunctive treatment for maladies in all body systems, over half of our respondents used OMT on less than 5% of their patients ... a quarter of the practitioners reported that they did not use OMT on any of their patients ... our data depict a general diminution in OMT practice among all osteopathic physicians." Based on the data in that study, there has been a further reduction in OMT use since 2001: 77.74% of respondents in our study reported using OMT on less than 5% of their patients and almost 57% did not use OMT on any of their patients. The explanation for this continued decline in OMT use is likely multifactorial and worthy of robust analysis. While such an analysis is outside the scope of this study, it certainly merits further investigation in future studies.

Moreover, addressing existing barriers to OMT use is clearly as important as ever for the osteopathic profession. Our study implicated lack of time as the most significant barrier to OMT use—with 73.87% of respondents either agreeing or strongly agreeing that it was a factor in their disuse. Of course, a perceived lack of time for adequate patient care is hardly unique to the osteopathic profession. The amount of time both osteopathic and allopathic physicians can spend in one-on-one patient care has decreased in recent years. Increased regulatory and administrative burdens are commonly cited by physicians and health care researchers as major factors that encroach on physicians' time.<sup>12-14</sup> Respondents in this survey seemed to agree, with one saying that "Administrative burden ... cutting direct patient time" was a barrier to OMT use. Political activism by both DO and MD physician interest groups in both will be vital to ameliorating these issues.

The other barriers identified in this study are perhaps more specific to the osteopathic profession. Many physicians included write-in responses regarding lack of reimbursement for OMT. One physician said: "I am out-of-network with insurance ... It is frequently not worth billing OMT (nearly 100% of the time)..." Another commented, "Reimbursement is a HUGE rate limiting step." Furthermore, for some physicians, a lack of institutional/practice support for OMT seems to be closely tied to lack of reimbursement and/or cost-effectiveness. As one respondent put it: "I have tried multiple times to begin using OMT as an employed practitioner. After [the] company reviews ... they determine that it is not cost-effective ..." Furthermore, a lack of confidence/

proficiency in OMT use seems to implicate osteopathic medical education as potentially deficient. A few write-in responses highlighted a lack of focus on OMT in medical school. Many more, however, cited the well-known issue of osteopathic medical students completing residency at a program that did not continue their OMT education, leading to a loss of competency.<sup>6–9</sup> The ultimate impact of the single Accreditation Council for Graduate Medical Education program on OMT education in residency remains to be seen.<sup>15–17</sup> This impact should be followed closely.

Despite these barriers, a committed minority of osteopathic physicians continue utilizing OMT. Per the 2001 study,<sup>2</sup> 6.1% of DOs used OMT on 76–100% of their patients. By our 2018 survey, that number had fallen to 3.58%. Variables that correlated with increased OMT use in this study included being a woman physician, being the full owner of a practice, and working in an office-based setting. The latter two variables seem to further support the notion that the use of OMT is made more difficult if a DO is an employee in an insurance-based system. Again, physician write-in comments are instructive: “No barriers. I use OMT daily”; “I use OMT ... My patients love it ...”; “I have developed/modified OMT techniques to be fast and efficient”; “I use a lot of OMT and see a significant benefit to my patients.” Interestingly, two of these OMT-friendly comments came from physician employees working in insurance-based hospital systems. Thus, while the barriers to OMT in the standard insurance-based health care model are significant for many, it appears possible for some to find creative ways of overcoming them.<sup>18</sup> Time will tell whether this physician minority continues to shrink, remains steady, or increases.

As with any survey-based study, ours was limited by reliance on self-reported data. The respondents’ own vested interests and viewpoints may have led to a self-selection process that is not accurately representative of OMT use at large. Further, only a portion of the more than 90,000 actively-practicing DOs in the US are members of the AOA. This may put further limits on how representative this data set is of the opinions and situations of DOs nationwide. Other limitations included a lack of analysis of additional variables that have been hypothesized to affect OMT use, including type and location of residency program, medical school attended, years in practice, graduation date, and cash-pay vs. insurance payment model, among others.<sup>1–7,9</sup> Such variables, though not investigated in this study, may merit inclusion in future research on this topic. Finally, OMT use is but a single measure of the distinctiveness of the osteopathic profession.<sup>19</sup> Thus, its use or nonuse may be less consequential to the overall uniqueness of the osteopathic profession than is suggested by this study.

## Conclusion

Our results showed that the number of osteopathic physicians who do not use OMT to any degree has more than doubled since 2001. Furthermore, the number of physicians who use OMT on 76–100% of their patients has decreased by 42% in the same timeframe. The most significant barriers to OMT use reported by our respondents were lack of time, lack of reimbursement, lack of institutional/practice support, and lack of confidence/proficiency. In general, these barriers appeared to be predominately related to the difficulties of implementing OMT as an employee in an insurance-based health care model. Variables correlated with increased OMT use included being a woman, working in an office-based practice setting, and being the full owner of a medical practice. This data can serve as a gauge to evaluate the current distinctiveness of the osteopathic profession. As always, the efforts of osteopathic physicians and organizations to promote OMT use and its unique benefits will be crucial to maintaining a robust number of its practitioners and the uniqueness of the profession. Continual monitoring via future studies will be vital to follow-up on the benchmarks established by this study.

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