Osteopathic Manipulative Treatment in Patients with Anxiety and Depression: A Pilot Study

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Abstract

Background & Aims: The role of touch in managing psychiatric patients is controversial. The purpose of this pilot study was to determine the effectiveness of osteopathic manipulative treatment (OMT) in patients with anxiety and or depression.

Methods: This was an 8-week pilot study comparing a treatment to a control group, each consisting of 10 randomly assigned adult participants with anxiety and or depression on psychotropics. No significant difference existed between groups for age or severity of disease. Participant responses for anxiety and depression were recorded weekly via a modified Generalized Anxiety Disorder 7 item (GAD-7) and Harvard National Depression Screening Day (HANDS) scales. From the initial cohort (n=20) a complete database was achieved for 16 of the patients. Statistical analysis was performed using RStudio.

Results: Of the 16 patients who successfully participated in the study, 6 received OMT, and 10 were part of the control group. For statistical purposes, the data gathered from both groups were subdivided into two categories: depression and anxiety subgroups. The depression treatment group had a week 1 mean of 24.4 ± 11.2 (n=5) with a paired t-test showing significance at week 7 of 18.0 ± 10.9 (n=5), P = .00767 and week 8 of 15.2 ± 12.5 (n=5), P = .041. The anxiety treatment group had a week 1 mean of 26.0 ± 8.7 (n=5) with paired t-test significant at week 7 of 20.2 ± 10.7 (n=5), P = .019 and week 8 of 19.2 ± 11.1 (n=5), P = .00815. All patients in the treatment group showed significant improvements in their anxiety and depression levels compared to those in the control group, which worsened by week 8.

Conclusions: Findings in this study indicate that OMT may be an effective adjunctive treatment modality for depression and anxiety.

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Background

Studies have demonstrated that touch plays an important role in one's physiological and psychological development.[1-2] As a primary sense, it aids in communication, links sensation to perception and feelings, and allows for translation of peripheral stimuli into subjective experience and behavioral responses.[1] Touch is a fundamental element that is common and essential to the provider-patient relationship in many facets of medicine. However, its use in psychiatry is controversial and there is little information regarding the origins of this controversy. Perhaps this notion of psychiatry being regarded as a no-touch specialty stemmed from the undesirable viewpoint imposed on touch during the Freudian era.[2] Although modern-day psychoanalysts have started shifting from this censorious viewpoint, research in this area is still lacking.

While care should be taken when considering the use of touch in psychiatric care, it should not be disregarded as an effective tool in psychiatry. Some studies have found touch to not only be effective in establishing communication, but also as a way of conveying emotions and ideas when working with psychiatric patients.[2-4] Physical contact can be interpreted as comforting, reassuring, and accepting, helping people feel relaxed, calm or secure. Research in psychiatrically hospitalized patients, with an array of mental illnesses ranging from depression to psychosis, has shown its effectiveness in establishing contact, enhancing communication and recognition, and providing reassurance and comfort.[3-4] It has been shown to be appropriate and critical in cases of a suicidal crisis, psychotic breakdown, and withdrawal. Additionally, its association with verbal communication renders it an influential tool to help prevent and de-escalate violent situations in psychiatric care.[5-6]

With touch as the influence, the authors wanted to focus specifically on osteopathic manipulative treatment (OMT) as a form of procedural touch with which psychiatric patients could be managed. The limited data in this field is what drew the author's attention to this matter. In a field where no algorithm exists and many avoid standard care due to stigma, having additional alternatives would help expand options for patients. The authors believe this may be accomplished through the use of OMT, a potentially cost-effective treatment modality. OMT is a hands-on practice used to diagnose, treat, and prevent illness or injury. It is centered on Andrew Taylor Still's philosophy that all body systems are interrelated and dependent on one another for good health as evidenced through his studies. OMT allows for the restoration of normal body function (homeostasis) by focusing on the relationship between the neuromusculoskeletal system and the rest of the body.[7] According to Elkiss and Jerome, the potency of touch in OMT is physically and psychologically recognized through a systems network that supports a verbal and tactile interaction that is both diagnostic and therapeutic. The OMT palpatory examination of the musculoskeletal system serves as the stepping stone in linking this systems network comprising the immune, nervous, endocrine, circulatory, and visceral systems; allowing for a complete assessment of the biopsychosocial presentation of each patient.[1]

Although its use in psychiatric care has been predominantly overlooked, studies involving OMT and other forms of procedural touch in patient care have demonstrated decreased hospital stays, elevated mood states, and relief of depression.[8] Given the correlation between the nervous system, behavior, and OMT's effect on neural transmission, it's possible that OMT would influence behavioral conditions, such as anxiety and depression.[8-10] With the restoration of homeostasis in mind, this study hypothesizes that OMT would help reduce the symptom burden of anxiety and depression. The purpose of this pilot study was to determine the effectiveness of osteopathic manipulative treatment (OMT) in patients with anxiety and or depression.

Methods

This was an 8-week prospective, experimental, controlled study to examine the impact of OMT as an adjunctive treatment of chronic anxiety and depression. The Orange Regional Medical Center Institutional Review Board approved the study protocol. Once written informed consent was obtained, 20 patients were randomly assigned to control ("no-touch": did not receive OMT) or treatment ("touch": did receive OMT) groups. Adult male and female patients, ages 21+, who were being treated with psychotropics for generalized anxiety disorder and or major depressive disorder by a primary care physician or psychiatrist, were considered for enrollment. Patients were recruited from site patient populations, including the outpatient primary and psychiatric clinics; there were no incentives for enrollment in the study. Patient demographics and enrollment criteria are provided in *Table 1*. None of the individuals enrolled in the study had experience with OMT. Enrollment in the study was for a minimum of 8 weeks to ensure restoration of normal function of the body. From the initial cohort (n= 20), a complete database was achieved for 16 of the patients. All subjects who dropped out did so by the sixth week. Withdrawal from the study stemmed from failure to keep appointments for OMT and psychiatric follow up. All patients received treatment with antidepressants and or anxiolytics at varying doses and frequency.

Table 1. *Patient enrollment criteria.*

	Control Group (n= 10)	Treatment Group (n=10)
Gender	Females: 5, Males: 5	Females: 7, Males: 3
Age	21-78	25-78
Mean Age	48.7	46.2
Ethnicity %	African American: 10%, Hispanic: 10%, White/non-Hispanic: 80%	African American: 10%, Hispanic: 10%, White/non-Hispanic: 80%

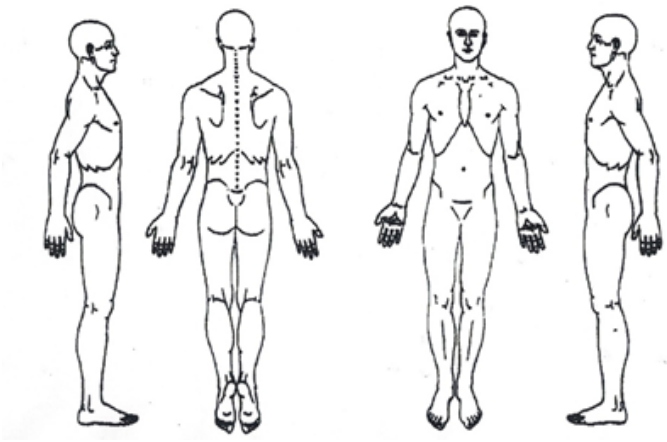
Table 2. *Patient demographics*

Exclusion Criteria	Inclusion Criteria
Depressed and or anxious patients with schizophrenia/ bipolar /personality disorder, trauma/abuse history, mental retardation, Down Syndrome, traumatic injury to cervical/thoracic/lumbar spine, coexisting infectious disease, medical/surgical conditions, suspected or known malignancy, all symptoms and signs of a herniated disc, pregnancy, seizure disorders and patients younger than 21 years of age.	Any patient above the age of 21 with chronic depression and or anxiety who is under the care of a healthcare provider (psychiatrist or PCP) on psychotropics.

After providing informed consent, all patients were assessed and evaluated weekly using standard screening tools comprising of a musculoskeletal screening assessment which included the Numeric Rating Scale (NRS-11), a modified Generalized Anxiety Disorder 7 item (GAD-7) and Harvard National Depression Day Screen (HANDS) questionnaire as shown in *Figure 1*. The questionnaires were modified to contain 11 questions each, graded from 0-3, providing a severity score from 0-33 with normal being 0-8, mild 9-17, moderate 18-26, and severe 26-33. During the first week, both questionnaires were based on the standard 6 month and 2-week periods for diagnosis of anxiety and depression, respectively, and were modified to weekly periods for the following consecutive weeks. Screening assessments were provided at the beginning of each session before the osteopathic structural exam and OMT for the treatment group, and at the beginning of each encounter for the control group. The osteopathic structural examination was not used as a placebo control in this study, as the purpose of this study was to determine the efficacy of OMT as an adjunctive treatment modality for patients with anxiety and depression. Ideally, the authors would have liked to have three groups (touch, no-touch, and sham group) but due

Figure 1. *Screening Assessment Tools*[11-12]

Musculoskeletal Screening Assessment: Please shade in areas where you are experiencing pain/tension/discomfort.



Grade your pain/tension/discomfort currently from a scale of 0-10 (0= no pain/no discomfort, 10= the worse pain/discomfort you can imagine):

- *Describe your pain/tension/discomfort:*
- *Does it radiate?*
- *What makes it better?*
- *What makes it worse?*

Modified Harvard National Depression Screening (HANDS) Scale

Depression	Not at all (0)	Several Days (1)	More than half the days (2)	Nearly Every Day (3)
In the past 2 weeks how often have you:				
Been feeling low in energy, slowed down				
Been blaming yourself for things				
Had poor appetite				
Had difficulty falling asleep or staying asleep				
Been feeling hopeless about the future				
Been feeling blue				
Been feeling no interest in things				
Had feelings of worthlessness				
Thought about or wanted to commit suicide				
Had difficulty concentrating or making decisions				
Did the things you noted affect your daily life or cause you a lot of distress				

Modified Generalized Anxiety Disorder 7 Item (GAD-7) Scale

Generalized Anxiety	Not at all (0)	Several Days (1)	More than half the days (2)	Nearly Every Day (3)
In the past 6 months how often have you:				
Felt very Nervous				
Worried about lots of things				
Felt like you could not stop worrying				
Felt worry is hard to control				
Felt restless, keyed up or on edge				
Tired easily				
Had trouble concentrating				
Easily annoyed or irritated				
Felt muscle tension and tightness				
Had trouble sleeping				
Did the things you noted affect your daily life or cause you a lot of distress				

to the sizing limit, it was decided to compare only "touch" and "no-touch" groups. Structural exams and OMT were administered by psychiatric resident physicians under the guidance of an osteopathic physician instructor. The initial standardized structural examination and treatment took 60 minutes per patient in the treatment group. OMT followed the structural exam and was incorporated into a total clinician-patient interaction time of 30 minutes per session thereafter. The control group involved absolutely no touching and was assessed in 30-minute intervals following the initial 60-minute interview with a focus on history gathering. The assessments were conducted in the same OMT treatment room with the patients in the seated position and consisted of gathering interim history, review of symptoms, and compliance with treatment after completion of questionnaires. The setting and timing of assessment and treatment were consistent between the 2 groups.

The osteopathic structural examination assessed for dysfunction from the head to the lumbosacral joint, to avoid boundary issues, and was recorded as either a positive or negative finding. The following were determined: cranial motion, cervical mechanics (C1 through C7), thoracic mechanics (T1 through T12), lumbar mechanics (L1 through L5), spinal lateral curve types (type I/II mechanics), shoulder heights, scapulae symmetry, and rib mechanics (ribs 1-12). Positive findings were based on segmental dysfunction (seated, supine), tissue texture abnormality (hypertonicity, stringy-boggy-ropey quality), asymmetry, altered range of motion, and tenderness. The findings comprised the following: cranial motion restriction, cervical lordosis, thoracic kyphosis, lumbar lordosis, seated flexion, scapulae symmetry, multiple bilateral upper extremity dysfunctions, cervical restrictions, thoracic restrictions, lumbar restrictions, rib cage restriction, and restriction of trapezius, scalenes, and rhomboids. No significant differences or patterns were observed for the osteopathic manipulative structural dysfunctions recorded. To ensure continuity, a specific OMT protocol was applied using a combination of soft tissue (myofascial release: direct treatment and indirect treatment, balanced ligamentous tension (BLT) release, and rib raising), counterstain, muscle energy, and osteopathic cranial manipulative medicine (suboccipital release and venous sinus release) techniques to all patients in the treatment group. The specific techniques applied to certain dysfunctions was a clinical decision made by the resident physicians in consultation with the attending physician. However, special attention was given to specific areas of dysfunction as recorded in the musculoskeletal screening assessment at the discretion of the treatment providers. Statistical significance between treatment and control groups were analyzed using RStudio.[13] Data gathered from the Numeric Rating Scale will be reported in a separate forthcoming article.

Results

Of the 16 patients who successfully participated in the study, 6 received OMT, and 10 were part of the control group. In both groups, only 1 patient was diagnosed with anxiety only and 1 with depression only. The data gathered from each screening tool varied for all patients at the start of the study. Data were analyzed in 2 sets of 2 subgroups, comparing the changes in anxiety and depression scores of the treatment group to the control group, respectively. An independent t-test analyzed data between treatment groups and control groups. A dependent t-test analyzed change within groups over time as the effects of OMT may take time to unfold. In consideration of the unrepresentative and small population, the Mann-Whitely test was performed. However, it did not yield significant results for anxiety or depression data, therefore these results were excluded.

Statistical analysis of paired samples tests for the depression treatment subgroup (D) via HANDS scoring revealed a week 1 (D1) mean of 24.4 ± 11.2 (n=5), versus week 7 (D7) 18.0 ± 10.9 (n=5) P = .00767*, 95% CI [2.823, 9.977], versus week 8 (D8) 15.2 ± 12.5 (n=5) P = .041*, 95% CI [0.580, 17.820] (see *Tables 3* and *4*). This resulted in an average reduction of reported depression levels from week 1 of 6.4 and 9.2 points in weeks 7 and 8, respectively. The significant p-values found in D7 and D8, coupled with the decreasing mean depression scores, suggest an improvement in depressive symptoms in the depression treatment subgroup throughout the study. Analysis of the depression control subgroup (DC) data revealed a week 1 (DC1) mean of 18.9 ± 6.15 (n=9) versus week 8 (DC8) 22.7 ± 8.46 (n=9), P = 0.028*, 95% CI [-7.034, -0.522] (see *Tables 5* and *6*). This significant p-value for DC8, coupled with the average increase in the mean of depression scores, suggests a worsening of depression symptoms in the depression control subgroup.

All other intragroup comparisons for depression treatment and depression control subgroups were insignificant. Intergroup comparisons via independent t-test between depression treatment and depression control subgroups did not yield significant results (see *Table 7* and *Figure 2*). Although results do not show statistically significant improvement in depression scores between the treatment and the control subgroups, the intragroup comparison shows improved depression scores throughout the study for the treatment subgroup as compared to the control subgroup, which on average worsened. This suggests the need for larger studies with increased duration of treatment.

Table 3. *Depression treatment subgroup (D) size, mean and standard deviation for each week of the study.*

Week	n	Mean	Standard deviation
D1	5	24.4	11.17
D2	5	22.6	11.35
D3	5	21.2	11.95
D4	5	21.6	12.24
D5	5	18.2	13.44
D6	5	21.2	11.92
D7	5	18.0	10.89
D8	5	15.2	12.52

Table 4. *Depression treatment subgroup(D) dependent t-test results. Intragroup comparison to week one (D1).*

	t	p-value	95% Confidence Interval	mean of differences
D1XD2	1.20	0.30	(-2.355, 5.955)	1.8
D1XD3	1.21	0.29	(-4.167, 10.567)	3.2
D1XD4	1.34	0.25	(-2.984, 8.584)	2.8
D1XD5	1.72	0.16	(-3.787, 16.187)	6.2
D1XD6	1.93	0.13	(-1.396, 7.796)	3.2
D1XD7	4.97	0.00767*	(2.823, 9.977)	6.4
D1XD8	2.96	0.041*	(0.580, 17.820)	9.2

Table 5. *Depression control subgroup (DC) size, mean and standard deviation for each week of the study.*

Week	n	Mean	Standard deviation
DC1	9	18.9	6.15
DC2	9	19.8	6.20
DC3	9	18.9	6.81
DC4	9	21.6	9.48
DC5	9	21.6	8.78
DC6	9	22.7	9.08
DC7	9	22.3	9.14
DC8	9	22.7	8.46

Table 6. *Depression control subgroup (DC) dependent t-test results. Intragroup comparison to week one.*

	t	p-value	95% Confidence Interval	mean of differences
DC1XDC2	-1.24	0.25	(-2.539, 0.762)	-0.9
DC1XDC3	0	1	(-2.607, 2.607)	0.0
DC1XDC4	-1.28	0.24	(-7.467, 2.13)	-2.7
DC1XDC5	-1.28	0.24	(-7.467, 2.134)	-2.7
DC1XDC6	-2.03	0.08	(-8.071, 0.515)	-3.8
DC1XDC7	-1.81	0.11	(-7.828, 0.940)	-3.4
DC1XDC8	-2.68	0.028*	(-7.034, -0.522)	-3.8

Table 7. *P-value results for reported depression from the independent t-test of the treatment (D) and control (DC) subgroups. Intergroup week by week comparison.*

	DC1	DC2	DC3	DC4	DC5	DC6	DC7	DC8
D1	0.35							
D2		0.63						
D3			0.71					
D4				1.00				
D5					0.63			
D6						0.82		
D7							0.48	
D8								0.28

Data for the anxiety treatment subgroup (A) obtained via GAD-7 revealed a week 1 (A1) mean of 26.0 ± 8.7 (n=5). Paired t-test revealed a week 7 (A7) mean of 20.2 ± 10.7 (n=5) P = .019*, 95% CI [1.738, 9.862] versus a week 8 (A8) mean of 19.2 ± 11.1 (n=5) P = .00815*, 95% CI [2.933, 10.667] (see Tables 8 and 9). This resulted in an average reduction of reported anxiety levels from week 1 of 5.8 and 6.8 points in weeks 7 and 8, respectively. The significant p-values found in A7 and A8 coupled with the reduction in mean anxiety scores from A1 suggest an improvement in the anxiety symptoms in the anxiety treatment subgroup. All other intragroup comparisons for anxiety treatment (A) and anxiety control (AC) subgroups were insignificant (see Tables 10 and 11). Intergroup comparisons via independent t-test between anxiety treatment and anxiety control subgroups did not yield significant results (see Table 12 and Figure 3). Similar to the depression group, there was no statistical significance when comparing anxiety scores between anxiety treatment and control subgroups. However, the intragroup comparison shows improved anxiety scores throughout the study for the anxiety treatment subgroup, indicating the need for larger studies with a longer duration of treatment to explore the long-term effects of OMT on this patient population.

Table 8. *Anxiety treatment subgroup (A) size, mean and standard deviation for each week of the study.*

Week	n	Mean	Standard deviation
A1	5	26.0	8.72
A2	5	25.8	8.96
A3	5	25.2	9.65
A4	5	24.6	9.61
A5	5	25.4	10.21
A6	5	23.4	11.71
A7	5	20.2	10.71
A8	5	19.2	11.12

Table 9. *Anxiety treatment subgroup(A) dependent t-test results. Intragroup comparison to week one (A1).*

	t	p-value	95% Confidence Interval	mean of differences
A1xA2	0.34	0.75	(-1.419, 1.819)	0.2
A1xA3	0.33	0.76	(-5.967, 7.567)	0.8
A1xA4	0.64	0.56	(-4.657, 7.457)	1.4
A1xA5	0.29	0.79	(-5.131, 6.331)	0.6
A1xA6	1.59	0.19	(-1.928, 7.128)	2.6
A1xA7	3.96	0.017*	(1.738, 9.862)	5.8
A1xA8	4.88	0.00815*	(2.933, 10.667)	6.8

Table 10. *Anxiety control subgroup (AC) size, mean and standard deviation for each week of the study.*

Week	n	Mean	Standard deviation
AC1	9	22.3	7.84
AC2	9	23.3	8.08
AC3	9	21.6	8.65
AC4	9	22.3	9.19
AC5	9	22.3	9.54
AC6	9	22.0	10.15
AC7	9	22.1	9.02
AC8	9	22.4	9.61

Table 11. *Anxiety control subgroup (AC) dependent t-test results. Intragroup comparison to week one (AC1).*

	t	p-value	95% Confidence Interval	mean of differences
AC1xAC2	-2	0.081	(-2.153, 0.153)	-1.0
AC1xAC3	0.78	0.46	(-1.521, 3.077)	0.8
AC1xAC4	0	1	(-2.491, 2.491)	0.0
AC1XAC5	0	1	(-3.051, 3.051)	0.0
AC1XAC6	0.19	0.85	(-3.642, 4.309)	0.3
AC1XAC7	0.19	0.86	(-2.516, 2.961)	0.2
AC1XAC8	-0.07	0.94	(-3.622, 3.400)	-0.1

Table 12. *P-value results for reported anxiety from the independent t-test of the treatment (A) and control (AC) subgroups. Intergroup week by week comparison.*

	AC1	AC2	AC3	AC4	AC5	AC6	AC7	AC8
A1	0.46							
A2		0.62						
A3			0.50					
A4				0.68				
A5					0.60			
A6						0.83		
A7							0.75	
A8								0.60

Figure 2. *Average reported depression score in HANDS and standard deviation of depression treatment group (D1-D8) versus depression control group (DC1- DC8) throughout the study. Results for depression treatment data yielded a week 1 mean of 24.4 ± 11.2 (n=5) with a paired t-test showing significance at week 7 (18.0 ± 10.9 (n=5), P = .00767) and week 8 (15.2 ± 12.5 (n=5), P = .041). * represents statistical significance found via paired t-test for that week. Please refer to Tables 3-6 for figure values.*

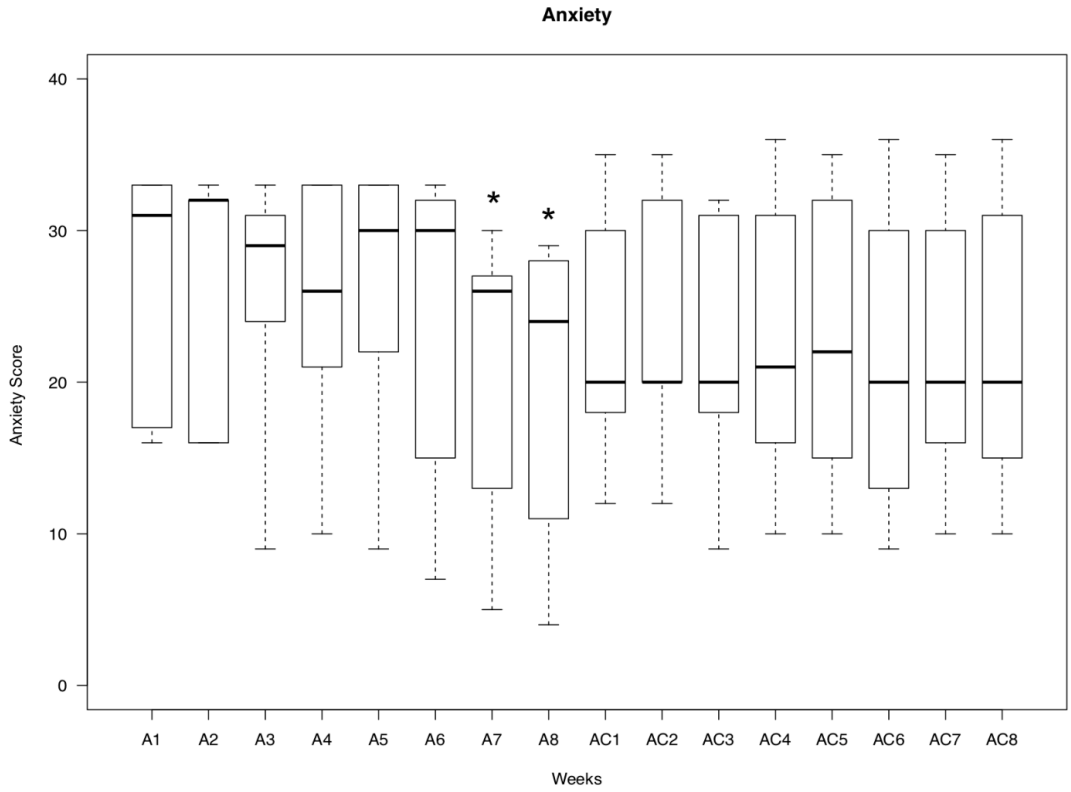
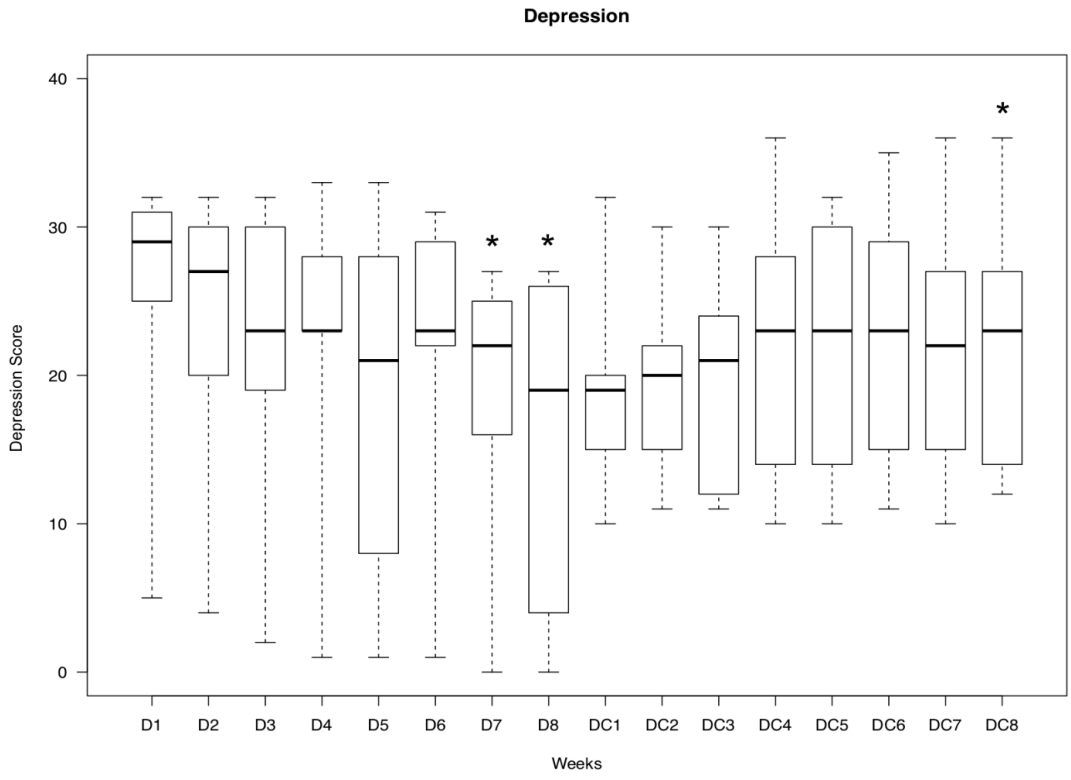


Figure 3. *Average reported anxiety per GAD-7 and standard deviation of anxiety treatment group (A1-A8) versus anxiety control group (AC1-AC8) throughout the study. In the anxiety treatment group, the week 1 mean was found to be 26.0 ± 8.7 (n=5) with paired t-test significant at week 7 (20.2 ± 10.7 (n=5), P = .019) and week 8 (19.2 ± 11.1 (n=5), P = .00815). * represents statistical significance found via paired t-test for that week. Please refer to Tables 8-11 for figure values.*



At the end of the study, the treatment group showed improvement in the GAD-7 and HANDS scores when compared to the initial scores. All of the patients in the treatment group showed significant improvements in their anxiety and depression levels while those in the control group worsened by week 8 (see *Figures 2-3*).

Discussion

Touch, whether procedural or not, when used therapeutically has proven to be an effective tool for patient care that oftentimes is ignored, especially in psychiatry.[1-6] Touching has been linked to emotional support, providing patients with a sense of belonging and allowing them to feel acknowledged as human beings.[3-4] It is often used to lessen a patient's preoccupation and provide a sense of normalcy, contributing to a holistic approach to patient care. Given special consideration and examination of the patient's background should be evaluated before utilizing touch, especially in psychiatric patients, to avoid crossing boundaries, guidelines for the use of touch must be followed. Perhaps these guidelines may be eased with the use of evidence-based procedural touch, such as OMT. It is understood that with the establishment of trust, oxytocin is released through brain priming leading to engagement of affect which in turn causes the limbic system to recruit autonomic, endocrine, and immune elements to the patient's global physiological and psychological state.[14] It is the combination of emphatic dialogue and palpatory diagnostic techniques that not only allows for the identification of somatic dysfunctions but treatment and monitoring of effects of OMT on behavior, mood, and thinking, enabling a clinically relevant integration of soma and psyche.[1]

The findings of this study indicate that OMT may serve as an adjunct to standard treatments of anxiety and depression as measured by GAD-7 and HANDS. Although the sample size was small and intergroup comparisons of the treatment and control groups were insignificant, the intragroup comparisons yielded significant results for the treatment group. Patients in the treatment group showed a significant reduction in reported anxiety and depression levels as measured by the screening questionnaires. Also, they provided positive feedback for OMT's usefulness in their care and were eager to continue receiving treatment at the end of the study. Nonetheless, it is important to point out the significant 40% dropout rate in the treatment group. Perhaps this could be ameliorated in future studies by focusing on patient education and having frequent reminders about follow-up appointments. Despite the small sample size, all patients in the treatment group showed improvements in their anxiety and depression levels while those in the control group showed worsening levels by week 8. The results of this study support the need for future research on OMT in psychiatric patients. It may be an effective practice that could be frequently used in psychiatry as evidenced by the results and the study participants' subjective positive feedback.

While the authors understand there are many limitations to this study, it is imperative to point out that at this stage, the point of this study was solely to ascertain the effectiveness of OMT in psychiatric patients with anxiety and depression. This trial did not attempt to control for potential therapeutic effects of touch as with a sham group. Further, given the significance found with the paired t-test but not with the independent t-test and Mann-Whitely test, the authors recognize concerns that results may be due to regression of the mean or are reflective of a population that does not follow a normal distribution. Improvement in anxiety and depression scores for the treatment group could also be due to touching alone as opposed to OMT, increasing the need for a study with a sham treatment group. The authors understand that the small sample size calls into question the strength of the study. The small sample size restricts any accurate predictions as it relates to the general larger population. Perhaps if the sample size were doubled, correlations between groups would be easier to analyze and quantify. Unfortunately, due to COVID-19 restrictions, the authors could not continue with the study and the sample size cannot be increased at this time. The hope is that future studies would control for the limitations of this study including small sample size, short duration of treatment, and analysis of subgroups such as a sham treatment, no-touch, and other types of procedural touching. Additionally, while in this study the patient population is comprised of established patients on psychotropics for the treatment of chronic depression and anxiety, future studies should consider the types and length of use of psychotropics. Future studies could also determine whether gender differences can be affected by OMT and this might be achieved by doubling the sample size with equal numbers of male and female participants.

Although there were limitations to this study, the results prove worthwhile and suggest further research is warranted. If larger studies can duplicate similar results, OMT could be utilized to improve patient health and provide cost-effective care for two of the most common chronic psychiatric illnesses. Touch, more specifically OMT, is considered an important healing tool in many facets of medicine and should not be ignored in psychiatry. The results of this study presented osteopathic manipulative treatment as a promising adjunctive treatment modality for depression and anxiety. At the very least, it provides a basis for further review of the role of OMT in psychiatric care.

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