



Dry Needling: Perceptions of Cost and Therapeutic Value

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Abstract

Study Design: Randomized controlled trial with an experimental and control group.
Purpose: To determine the perceived financial value and therapeutic value attributed to dry needling (DN), as compared to other traditional therapeutic interventions such as: therapeutic exercise, manual therapy, and neuromuscular reeducation.
Hypothesis: The inclusion of DN as an intervention will result in increased perceptions of financial and therapeutic value.

Background

The 2022 American Physical Therapy Association consumer report provided insight to the public's perception of physical therapy, uncovering areas of perceived strengths and barriers within the profession. Overall, consumers rate their physical therapy (PT) experience as positive and over 90% report benefit from PT. There is also a growing belief that physical therapists have a better understanding of movement and diagnosing and treating an injury than their primary care provider (PCP). However, PCP's are still regarded as gatekeepers to PT with 41% of consumers reporting they would rather see their PCP before PT. Additionally, over 50% of prior PT users report they would not see a physical therapist through direct access care, even if their insurance plan allowed it. According to the consumer report, one of the primary reasons patients skip a referral to physical therapy is cost. A more thorough understanding of consumer perception of therapeutic and financial value may arm the physical therapy profession with marketing strategies, thereby reducing perceived barriers to access.

Materials & Methods

This study was a randomized controlled trial conducted at the University of South Dakota. A sample of convenience was used and participants were randomly assigned and blinded to either the experimental group or control group. Informed consent was provided prior to participation in the study. The study included a short survey gathering demographic information including age and gender and questions pertaining to each participant's prior experience or lack of experience with physical therapy. Next, four, 30-second videos were presented. Participants were instructed to watch one video and then answer questions regarding perceived therapeutic and financial value on the post-video survey. Then, participants would view the next video and answer the same questions. At the end of the survey the same questions regarding perceived therapeutic and financial value were asked in regard to all of the video clips being considered as a whole treatment session. Video clips, created by the authors, were utilized to visualize a variety of treatments performed by a physical therapist on a patient. The physical therapist performing the interventions is licensed, in good standing, and has certifications in DN. All of the videos were 30 seconds in length, with the same interventions and sequence utilized for the first three interventions: 30 seconds of therapeutic exercise: resisted T's; 30 seconds of neuromuscular reeducation: alternating isometrics; 30 seconds of therapeutic exercise: stretching of cervical muscles, specifically upper trapezius and levator scapulae. The fourth intervention differentiated the groups, with the control group viewing 30 seconds of manual therapy: soft tissue mobilization (STM) of the interscapular muscles, and the experimental group viewing 30 seconds of DN to the trapezius muscle and interscapular areas.

Results

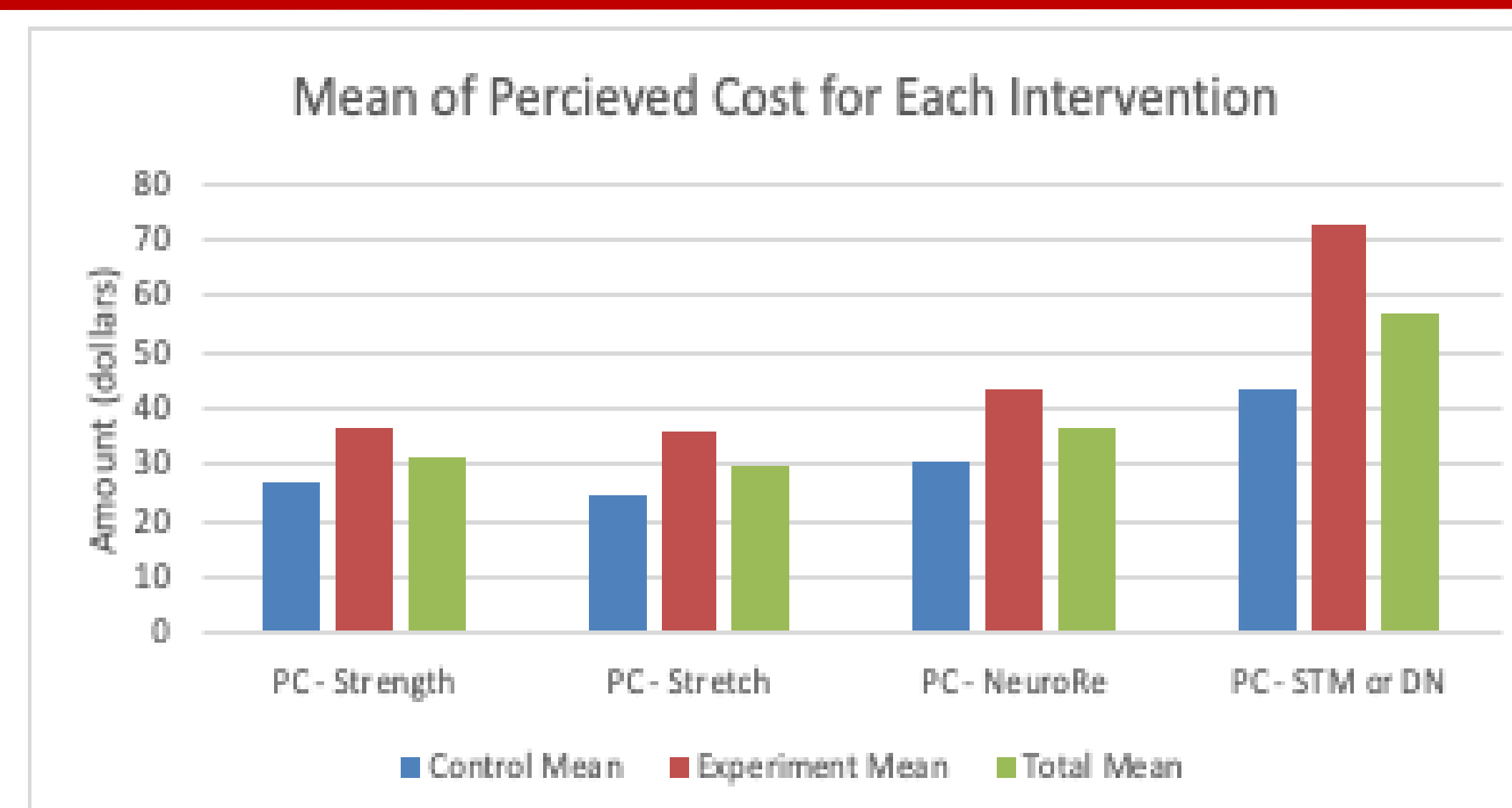


Figure 1

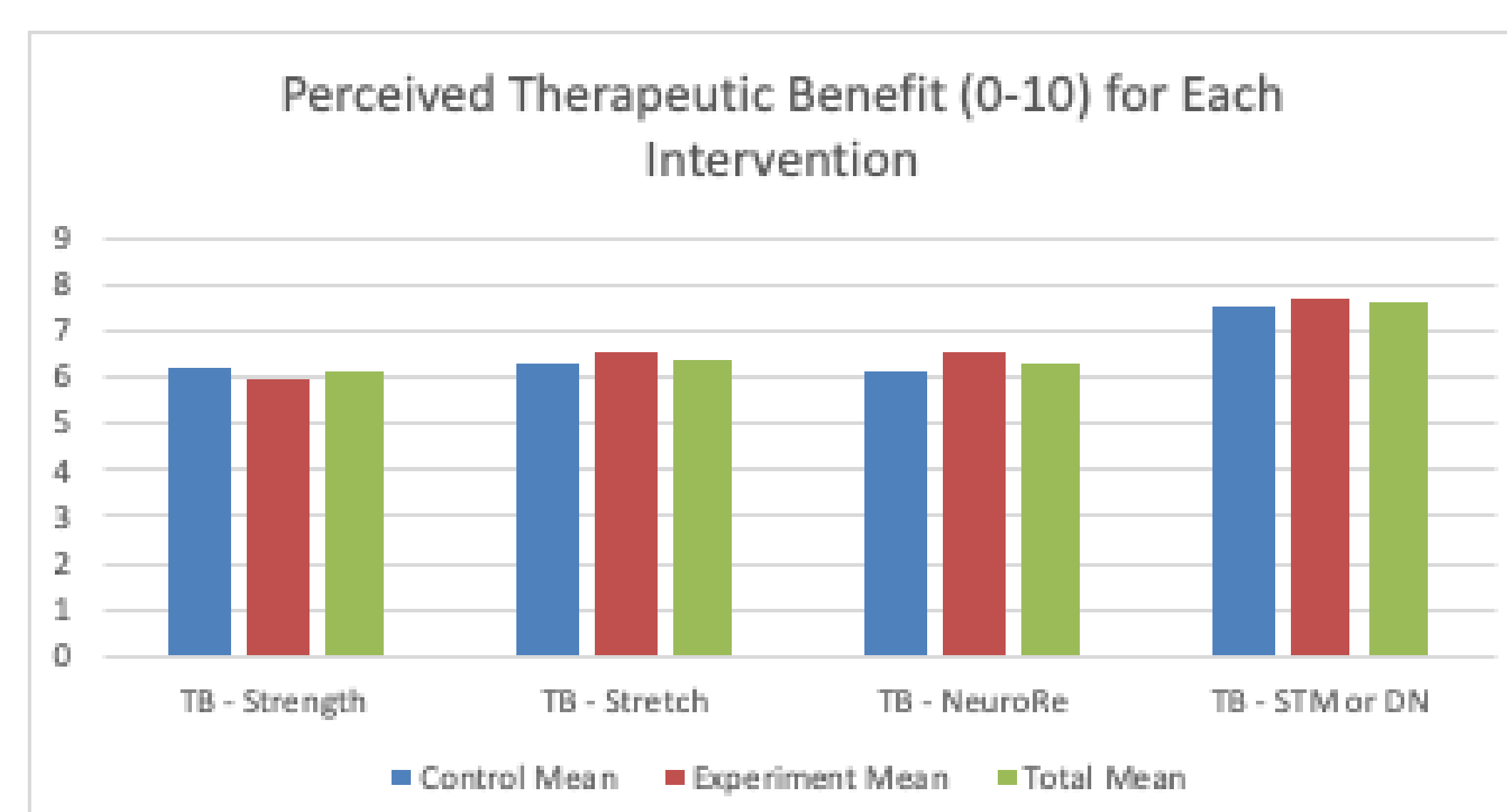


Figure 2

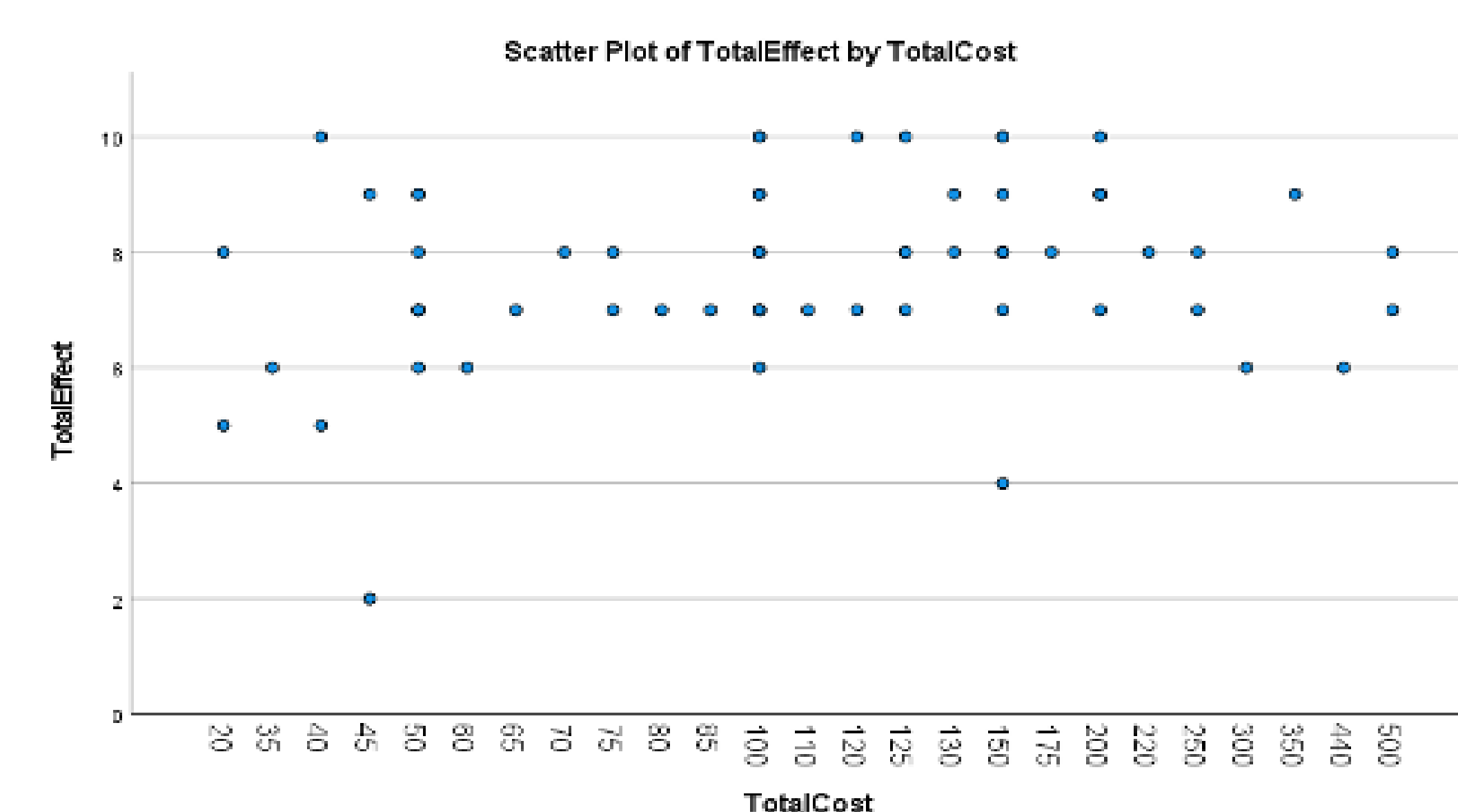


Figure 3

As shown in **Figure 1**, there were no significant differences between the perceived financial value of therapeutic exercise, strengthening and stretching, or neuromuscular reeducation. However, there was a significant difference between STM and DN ($p < .01$). These two hands-on interventions were regarded as having higher financial value than therapeutic exercise.

In assessing the total cost of all four interventions, there was a significant difference between control and experimental groups. **The overall perceived financial value was rated 48% higher for the experimental group (containing dry needling) than the control group.**

- Experimental Group (Dry Needling): \$165.983
- Control Group (Soft Tissue Mobilization): \$111.86

As shown in **Figure 2**, STM and DN were perceived to be more therapeutically valuable than the other interventions.

In **Figure 3**, it can be identified that there was no correlation between the total perceived cost and total perceived therapeutic value between groups ($r = 0.076$). The perceived cost did not seem to influence the perceived benefit of the treatment.

Discussion

There was high variability in the perceived cost of the interventions seen in this study. Notably, the mean values collected were consistent with the Medicare reimbursement rates that are currently used for therapeutic exercise and neuromuscular reeducation. When evaluating the inclusion of dry needling in a treatment session versus a session incorporating soft tissue mobilization, a statistically significant boost in the perceived financial worth of the session that incorporated dry needling was observed. The mean perceived value of dry needling observed in this study was \$72. This value may offer a benchmark for private practice owners who are attempting to determine a fair market price for this relatively new intervention. Although this study encompasses a small sample size, if subsequent research confirms these initial findings, clinicians may also have a new data set offering solutions to barriers impacting patient recruitment, retention, and satisfaction.

Conclusion

This research demonstrates the potential financial benefit of implementation of DN into a therapy session. A 48% increase in perceived financial value was noted within the experimental group, as compared to the control group which lacked dry needling. With these findings, clinicians may have insight into what their patients deem financially and therapeutically valuable, with potential positive implications in patient recruitment, adherence, and retention. Indeed, when used in conjunction with other traditional physical therapy interventions, DN may offer solutions to the cost and direct access barriers identified within the APTA Consumer Report.

Limitations

Limitations include a sample of convenience, underrepresentation of males, and multiple unfinished surveys which had to be excluded from the study. Further research should also consider utilizing an alternative intervention, such as therapeutic exercise or neuromuscular reeducation as the control intervention.

Clinical Relevance

Dry needling appears to increase the perceived financial value of physical therapy sessions. Dry needling and STM may be regarded as more therapeutically beneficial than traditional physical therapy interventions such as therapeutic exercise, neuromuscular reeducation, and manual therapy.

References

1. APTA Consumer Report. American Physical Therapy Association. 2021.
2. St Sauver JL, Warner DO, Yawn BP, et al. Why patients visit their doctors: assessing the most prevalent conditions in a defined American population. *Mayo Clin Proc.* 2013;88(1):56-67.
3. Lentz TA, Beneciuk JM, George SZ. Prediction of healthcare utilization following an episode of physical therapy for musculoskeletal pain. *BMC Health Serv Res.* 2018;18(1):648.
4. Cagnie B, Dewitte V, Barbe T, Timmermans F, Delrue N, Meeus M. Physiologic effects of dry needling. *Curr Pain Headache Rep.* 2013;17(8):348.
5. Hon S, Ritter R, Allen DD. Cost-Effectiveness and Outcomes of Direct Access to Physical Therapy for Musculoskeletal Disorders Compared to Physician-First Access in the United States: Systematic Review and Meta-Analysis. *Phys Ther.* 2021;101(1).