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Effects of Reducing Pain and Muscle Tension and Improving Daily Functional Performance
Through Myofascial Decompression on the Muscles Within the Thoracic Spine Region

A Doctoral Experiential Capstone Project Final Report
Presented to the Faculty of Western New England University
In Partial Fulfillment of the Requirements for the
Entry-Level Doctorate
in
Occupational Therapy

by
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July 2023

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Through Myofascial Decompression on the Muscles Within the Thoracic Spine Region

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By

Morgan T. Lukasik, OT/s

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APPROVED BY:

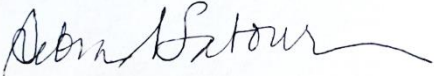


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Abstract

The aim of this doctoral capstone project was to investigate the effectiveness of myofascial decompression to reduce pain and muscular tension to improve daily functional performance on the muscles within the thoracic spine region (upper back). The research method of this study includes myofascial decompression through the application of dry cupping therapy. The study investigated the effectiveness of this instrument-assisted soft tissue mobilization technique when applied twice per week for four weeks to a sample of undergraduate and graduate students enrolled at Western New England University. This study utilized objective measures including the World Health Organization Quality of Life Scale, Wong-Baker Pain Scale, and daily pain logs to assess the effectiveness of the modality on the upper back. These results can be used as a resource in the field of occupational therapy and incorporated into evidence-based practice for practitioners who are seeking a more holistic and sustainable pain management technique. By using this instrument-assisted soft tissue mobilization technique, practitioners can provide their clients with complementary or alternative approaches to pain management. This modality is sustainable within the field of occupational therapy as it is affordable, requires minimal training, and is highly accessible to obtain materials for interventions.

Introduction

Chronic pain can be debilitating to an individual, resulting in physical, mental, and emotional pain. Chronic pain is typically known for lasting greater than 3 months and can be the result of underlying medical conditions, injury, or medical treatment, in which lingering pain symptoms are associated with psychological distress disorders that can lead to occupational dysfunction (Dowell et al., 2022, Radomski & Trombly, 2014). Over the past 20 years, there has been a significant increase in the use of opioids to treat pain, which has also been associated with opioid-related abuse and overdose. (Kaye, et. al., 2017) There is a need for chronic pain treatments that both allow for pain relief while also minimizing the risk of opioid abuse. (Kaye, et. al., 2017). It was also found based on 2019 research by the Centers for Disease Control and Prevention (CDC), that 20.4% of adults experience chronic pain in the United States. Within this percentage, it was also reported that 7.4% of these individuals explained that this pain caused limitations within their life and activities of daily living.

After the completion of extensive research, literature reviews, and needs assessments, it was found that there are limited nonpharmacological pain management treatments and interventions. Cupping therapy offers an opportunity to provide holistic pain relief while steering away from using opioids to treat chronic pain.

Cupping therapy is a traditional Chinese medical treatment that has been practiced for thousands of years. The World Health Organization's (WHO) definition of cupping is a therapeutic method involving the application of suction by creating a vacuum (WHO Library Cataloguing in Publication Data, 2007). There are a variety of different techniques and materials that can be used with cupping therapy. Common techniques of cupping therapy include dry

cupping, wet cupping, massage cupping, and flash cupping. Within these different techniques, cup materials may vary between glass, silicone, plastic, bamboo, rubber, metal, or ceramic. When performing cupping therapy, it is important to know these different materials and techniques along with indications and contraindications for the safety of the client. Indications for cupping therapy include localized conditions that cause pain or muscle tension in the neck, back, shoulder, and knee. Cupping therapy is contraindicated for people with deep vein thrombosis and should not be applied directly on veins, arteries, nerves, skin inflammation, skin lesions, body orifices, eyes, lymph nodes, varicose veins, open wounds, and bone fractures, (Aboushanab & AlSanad, 2018). This is important when assessing a client before performing cupping therapy to achieve potential benefits and to prevent any harm.

The suction produced through cupping induces negative pressure inside the cup. Throughout a range of studies, it is hypothesized that inducing this negative pressure attracts blood to the area of pain, thereby removing blood stasis and increasing blood and lymph circulation locally to relieve tension and pain in the muscle (Chen et al., 2014). These physiological changes can be beneficial in treating pain and/or muscle tension found within the body. Furthermore, a literature review has been completed comparing different themes found within areas of the neck and lower back, strengths, and weaknesses.

Target Population

The target population for the study included the students at Western New England University (WNE) whose pain and/or muscle tension impacted their ability to independently engage in their daily activities. Throughout this capstone, the student focused on students who experience pain in the muscles of the thoracic region of the back (upper back).

Based on a study conducted by Saad M. Alsaadi (2022), the most common sites of musculoskeletal pain in students include the neck and back. Approximately 41.9% to 54.6% of students experienced pain within their neck and 48.2% to 49.4% experienced it within the back. Students reported that their pain had impacted their daily life and quality of sleep (Alsaadi, 2022). When students' pain begins to impact their daily activities, they are unable to fully participate in leisure activities and school-related activities. The inability to be independent in these daily activities correlates with difficulties in mental health regarding stress, anxiety, and depression impacting their quality of life (Alsaadi, 2022). This target population was selected to make a pain management technique such as cupping therapy more accessible to these students to prevent these difficulties in quality of life and limited independence.

According to WNE student statistics, the student population consists of students that are from 38 different states and 22 different countries (Western New England University, n.d.). As a large majority of these students are from different states and countries, they may be unaware of local and available pain management resources in Springfield, Massachusetts. Along with limited resources, these students may also have financial worries that impact their decision to seek out pain management options. College students have a high rate of stress regarding concerns with paying back loans, the cost of tuition, academic supplies, and the cost of living due to their inability to work full-time while they are in school, which impacts their quality of life (Moore et al., 2021). The target population of WNE students was chosen specifically to assess their needs for pain management and to provide resources for cost-effective pain management options such as cupping therapy. In addition, this population is targeted because there is a need for nonpharmacological treatment for pain management. This population would greatly benefit from cupping therapy as a holistic approach to pain management and to increase

their quality of life. As a gap in care, there are currently no non-athlete cupping therapy or pain management programs at WNE.

Doctoral Experiential Project Overview

The primary purpose of the Doctoral Capstone was to serve the needs of the population through the application of knowledge and skills gained by the students during their fieldwork experiences through the delivery of health, educational, and social services. For this Doctoral Experiential Project, the primary focus was based on researching the effects of reducing pain and muscle tension and improving daily functional performance through myofascial decompression on the muscles within the thoracic spine region (upper back). This project took place over the span of 14 weeks which included developing and running a cupping therapy research study provided to the students at Western New England University who were experiencing chronic pain in the upper back.

Experiential Component

During this capstone project, a multitude of components converged to form the experiential aspect. For the experiential aspect of this capstone project, a cupping therapy clinic was created and conducted over a span of 4 weeks. During these 4 weeks, participants were asked to attend Western New England's campus within Blake Law Center where they were treated for pain and muscle tension using cupping therapy. Throughout these four weeks, 8 total cupping sessions were administered twice a week for 4 weeks with a 2-week intermission. Once agreeing and consenting to participation, participants were asked to continuously fill out different data collection measure surveys as a form of documentation to use and demonstrate the potential relief and effectiveness of the intervention.

After the 6 weeks were complete and data was collected and analyzed, this information and knowledge gained was then administered to other students and faculty within the WNE OTD department. An educational handout was created highlighting the various benefits cupping therapy can have on the body and one's health as shown in *Appendix A*. Along with the handout, an educational PowerPoint was created presenting the correlation between chronic pain and quality of life. This PowerPoint contained the benefits of cupping, functional activities impacted by pain, a correlation between chronic pain and quality of life, and supporting research on the topics found in *Appendix B*. The researcher highlighted how cupping therapy can be used as a preliminary measure or intervention for treating pain and muscle tension in hopes of improving quality of life with decreased pain.

Along with the educational material, the researcher collaborated with other researchers to create a 2 part in-service presentation that was presented to the Year 2 OTD cohort. The first part of the presentation consisted of an educational PowerPoint highlighting the benefits, precautions, contraindications, and protocol of cupping therapy;-which can be viewed in *Appendix C*. Each researcher had the opportunity to educate and present their individual findings and knowledge to the cohorts. In conjunction with the PowerPoint, the researchers conducted a demonstration for the Year 2 students providing hands-on education and experience to practice and learn how to perform cupping therapy in a safe and efficient manner. Before practicing, the students received in-depth education regarding the precautions and contraindications for who can be a candidate to participate in receiving cupping therapy. Under the supervision of Dr. Murray, the researchers held an open lab for the students to practice performing and experiencing cupping therapy on themselves and others.

Scholarly Component

Problem Statement

The overprescription of opioids and narcotics for individuals with chronic pain is a problem within the United States. Chronic pain is a type of pain that is ongoing and usually lasts longer than six months. Chronic pain can highly impact an individual's life by limiting performance and function with activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Based on 2019 research, it was reported that 20.4% of adults experience chronic pain in the United States (Center of Disease Control and Prevention, 2020). Healthcare providers have prescribed pain medication such as opioids and narcotics at greater rates which increases the occurrence of addiction, overdose, and other health complications. These healthcare providers need more holistic pain-reducing treatments to reduce the possible risks associated with pain medications. Not only is chronic pain a nationwide concern, but living with chronic pain is found within our communities, especially among college ages students.

Pain can have a significant impact on an individual's everyday life and occupations, especially impacting a student's quality of life and academic performance. Students who experience chronic pain have a higher risk of developing mental health conditions such as anxiety and depression which impact their quality of life (Alsaadi, 2022). These mental health conditions can further exacerbate their pain symptoms and impact their ability to engage in their daily occupations outside of their role as a student. In addition, pain can interfere with a student's sleep patterns such as quality, duration, and efficiency which impacts their executive functioning skills that affect their concentration and focus during class (Noel et al., 2016). Chronic pain can also have a significant impact on a student's quality of life, as it can interfere with their activities

of daily living, social, and leisure occupations. Students with chronic pain may experience physical limitations such as difficulty with functional mobility which can make it challenging for them to participate in extracurricular activities that they enjoy. As a result, students with chronic pain may miss out on important educational opportunities, experience academic decline, and struggle to achieve their full potential.

Literature Review

After extensive research and review of the literature and assessing the needs of the community referenced in *Appendix D*, it was found that there is a significant unmet need for non-pharmacological pain management interventions. Recently, there has been a growing interest in non-pharmacological pain treatment options such as myofascial decompression (Cramer et al., 2020). After reviewing the literature, researchers have conducted studies on cupping therapy to determine its overall effect on individuals who have experienced pain or muscle tension. Multiple studies have proved that cupping therapy can be used as either a potential or effective treatment method to reduce pain or muscle tension (Aboushanab & AlSanad, 2018; Arslan et al., 2015; Lauche et al., 2011; Moura et al., 2018; Saha et al., 2017; Teut et al., 2018; Volpato et al., 2020; Wang et al., 2020). Within these studies, most individuals were experiencing back or neck pain which has impacted these individuals' daily life and their occupational performance. After their treatment, their overall quality of life has increased due to decreased pain and muscle tension. A holistic, safe, and alternative treatment option such as cupping therapy can also provide benefits such as promoting the skin's blood flow, reducing inflammation, promoting overall health, preventing pain and muscle tension, providing therapeutic relief, and increasing an individual's overall quality of life (Aboushanab & AlSanad, 2018; Wang et al., 2020).

Purpose Statement

Myofascial decompression, which is also known as cupping therapy, is a relatively new modality in the United States. Cupping therapy is a form of alternative therapy that involves placing specific cups on the skin to create suction. It has the potential benefits of increasing blood circulation, relieving muscle tension, improving overall blood flow, and reducing chronic pain (Healthline, 2019). There is a need for the adoption of cupping therapy throughout different professions in healthcare including occupational therapy (OT), for these services to become more accessible to different communities, and to provide more holistic services in areas of poverty. It is important that OTs adopt this modality into their pain management treatment because of their holistic approach and focus on independence in ADLs and IADLs. Along with the adoption into occupational therapy, cupping therapy is an affordable and accessible pain management modality that can be utilized by college-aged students for their pain and muscle tension that impacts their everyday occupational performances as a student.

Methodology

A preliminary survey for interest in the study was sent out to graduate and undergraduate students at WNE via email, university posts, and verbally displayed in *Appendix E*. Included in this study were 13 students from WNE Law and OTD program experiencing pain in the upper back and whose pain impacted their occupational performance. Throughout the study, due to inconsistent data or participants dropping out of the study, the total number of participants ended with 10 active participants. Participants received myofascial decompression (cupping therapy) twice weekly for a total of 4 weeks. Participants had at least one rest day in between their sessions. There was also a 2-week intermission between the first and last 2 weeks of the study

due to campus closure and summer break. Prior to each session, participants were required to fill out a pain log identifying their current pain level and stressors that impacted their pain. This survey also required participants to explain if they felt any relief from the session, for how long, and if they felt better, worse, or no difference after their previous session.

During the intervention, the skin was prepared with an alcohol swab and lotion for sanitation and comfort. Cups were strategically placed on pre-identified muscle groups attentively targeting the client's pain and muscle tension. Once areas of concern were identified, the researchers set a timer and let the cups gently adhere to the skin's surface for 8 minutes. After the cups were removed, they were asked to give another pain rating on the Wong-Baker Pain Scale to compare immediate results to their pain before intervention. Participants were also required to fill out a Quality of Life (QOL-BREF) questionnaire during the first, midpoint, and last sessions to compare how their quality of life has been impacted throughout the pain relief process.

Inclusion & Exclusion Criteria

During this study, the inclusion and exclusion criteria were important for the participation of the students based on the strict precautions and contraindications of cupping therapy along with the demands of participating in the study. The inclusion criteria consisted of individuals 18 years of age or older and who currently attend Western New England's graduate or undergraduate studies. These participants were required to read and consent to the study to show their willingness to participate with the opportunity to drop out at any given time. Once consent was obtained, the participants were required to identify the troublesome muscle group that

impacts their daily occupational performance and quality of life. Students were also asked to commit to their scheduled sessions two times a week for 4 weeks.

The exclusion criteria for this study included individuals of 17 years of age or younger as well as students who are not currently enrolled as a student at Western New England University. Some of the contraindications or precautions that excluded participation consisted of individuals who have cancer, taking blood thinning medication, acute infections, congestive heart failure, kidney or liver disease/dysfunction, have severe wounds or systemic edema, acute fractures, broken or burned skin or other skin conditions, and individuals who are pregnant (Aboushanab & AlSanad, 2018).

Data Collection

Throughout the time participants were receiving cupping therapy, they were asked to fill out a series of documents to use as data collection measures. The data collection measurements included a series of surveys from an initial intervention survey, the World Health Organization-Quality of Life (BREV), the Wong-Baker Pain Scale, and daily pain logs. Each participant was assigned a random number to keep the study confidential and anonymous to the other participants to keep individuals' data and information safe. During the first session an initial intervention survey was distributed to the participants before the first cupping therapy session. This included a series of questions including pain as well as important personal questions the researchers should know prior to performing cupping therapy on participants. After this initial survey was documented, participants were asked to complete the QOL-BREV survey on their current quality of life from the previous two weeks.

After the first initial documentation period and intervention were completed, moving forward participants were asked to fill out a pain log before each upcoming session speculating their levels of pain on a scale from 1-10, activities that exacerbated their pain, and how long symptom relief lasted. At the midpoint of the study, the participants were again asked to fill out another QOL-BREV survey reflecting on their past two weeks and their quality of life after receiving cupping therapy. Lastly, after 4 weeks' worth of intervention, an anonymous post-intervention survey was delivered and filled out by the participants that served as overall feedback for the researchers to use based on the effectiveness of the cupping therapy and overall professionalism throughout the sessions. Then again, a final QOL-BREV survey was administered to the participants to capture the full circle data between baseline, midway, and their quality of life after completion of the cupping interventions.

At the end of all the sessions, the logs were then compared and analyzed to investigate the benefits of cupping therapy on upper back pain. These surveys also served to document and compare any changes in QOL in one's life after receiving cupping therapy and any positive outcomes it might bring.

Implementations

Throughout this study, there was a protocol that was used and followed for the duration of the study. This protocol consisted of the participant arriving at their scheduled appointment time and to begin working on all documentation paperwork that was necessary. Next, they were guided to a designated section of the lab space with privacy screens and lab beds for comfort and privacy. Once comfortable, the researcher sanitized the area being treated in order to remove excess oils on the skin. Lotion was then used to create a barrier on the skin. This allowed for

comfort when cups were being applied. During this time the researcher would also converse with the participant and discuss the number of cups the participant wanted and their exact location desired. If unable to determine a target spot, the researcher would gently massage the skin to feel for any tightness or knots within the muscles of the skin.

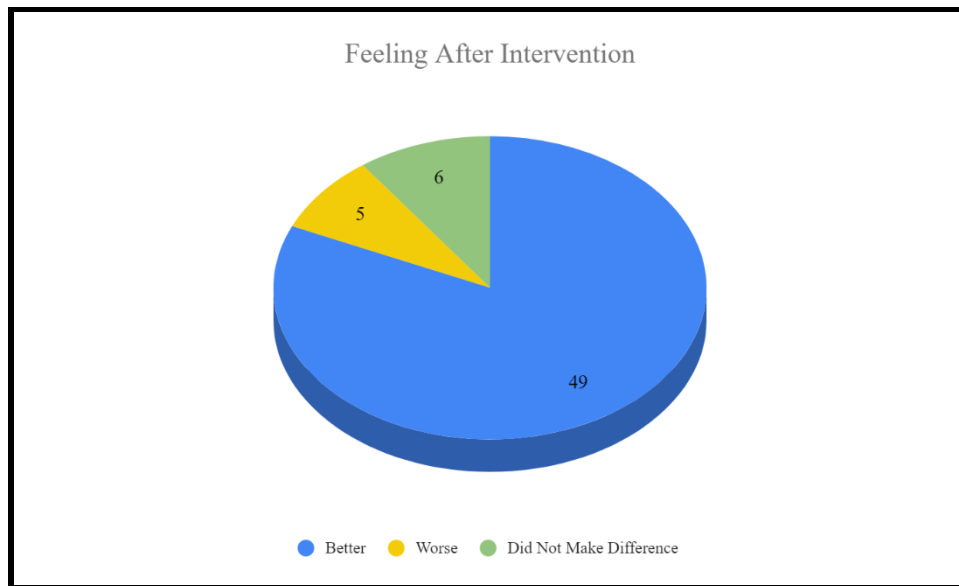
After determining the placement and number of cups to be used, the researcher then began to apply the cups to the designated skin areas and manually created two suction pumps of pressure. Once negative pressure was created whether it was two pumps or as tolerated per participant, the cups adhered to the skin for a duration of 8 minutes. If uncomfortable or activity tolerance decreased, participants were made aware that removal of the cups was acceptable, and readjustment of the cups or pressure was allowed. After the 8 minutes were completed, the cups were gently removed, the participant was given time to fix their clothing and gather materials, then asked to answer on a scale of 1-10 their level of pain immediately after the session in comparison to their initial number. Once numbers were documented the researcher and participant scheduled a time that worked for both parties for the next session.

Data Analysis & Results

The data collection measures for this study consisted of multiple surveys and pain logs to be documented and used for data analysis post-study. Following the completion of the study, the researcher began to dissect the data and analyze the trends that were discovered after the post-research cupping therapy clinic. The researcher dedicated time to complete all documents and surveys and used google excel sheets to format and organize the findings. Once the data was uploaded in Excel, the researcher then found the trends from each participant and formulated the data into graphs. The data was then compared from all the sessions to determine the effectiveness

of utilizing cupping therapy as a modality to reduce pain and muscle tension as well as improve QOL and daily occupations.

Chart 1: Feeling After Intervention



The first main piece of data that was collected and analyzed was the immediate relief each participant felt post-intervention. As shown in Chart 1. There was a total of 60 immediate responses throughout the entire study that were reported by participants. Out of the 60 reports, 49 of those reports found that the intervention reduced the participants' pain when asked to report immediately post-intervention. Therefore, 81.7% had immediate relief after the intervention and experienced positive and better feelings of pain and muscle tension relief when receiving cupping therapy. However, five participants reported that cupping therapy made the pain worse and 6 reported that cupping therapy did not make a significant difference. In reporting their pain participants were asked to use the Wong-Baker Pain Scale on a scale from 1-10 to report their pre- and post-intervention pain levels. Then the pre- and post-pain levels after every session were used to determine the comparison between sessions and help determine the effectiveness.

Individual daily pain level reports can be found in *Appendix E*, demonstrating each participant's pain before and after intervention throughout the 4 weeks of cupping therapy.

Chart 2. Types of Pain

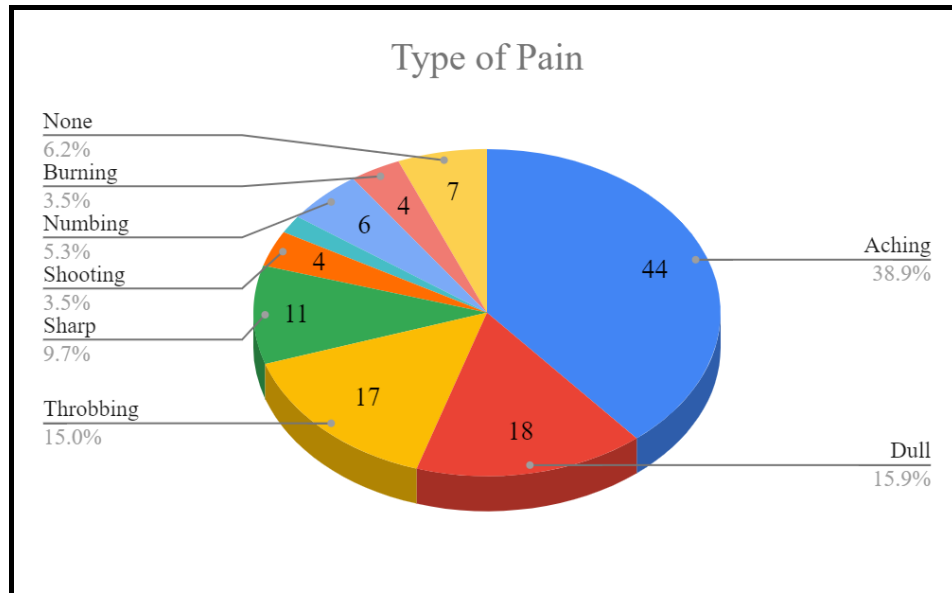
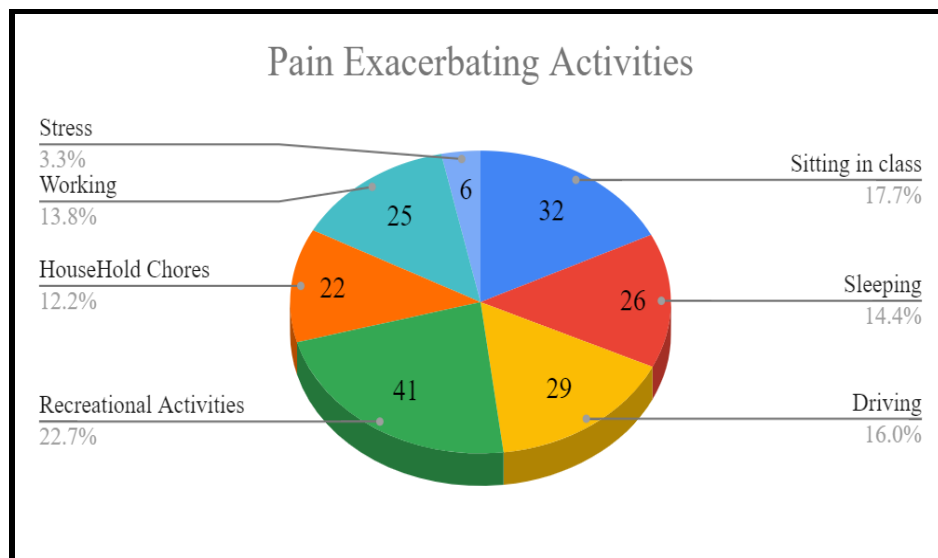


Chart 3: Pain Exacerbating Activities



The second piece of data collected consisted of the types of pain experiences as well as activities that exacerbated the participant's pains. When analyzing the trends between the types of pain participants were experiencing using daily pain logs, it was reported that “aching, dull, and throbbing” pain were the top three types of pain reported. As shown in Chart 2 out of 113 responses, the highest report consisted of 44 reports of feeling “aching” pain that accumulated to 38.9%. The second-highest report consisted of 18 reports of experiencing “dull” pain averaging 15.9% of the data. Finally, “throbbing” pain was reported 17 times averaging about 15% of reports.

Chart 3 analyzed activities that exacerbated pain and it was shown that recreational activities, sitting in class, and driving were the top 3 reported activities that exacerbated participants' pain. With a total of 181 reports of pain-exacerbating activities, recreational activities were reported 41 times or at 22.7% and constituted the majority of participants. The second most exacerbating activity, sitting in class, was reported 32 or 17.7% of the time. Lastly, driving was reported 29 or 16.0% of the time.

Chart 4: Symptom Relief

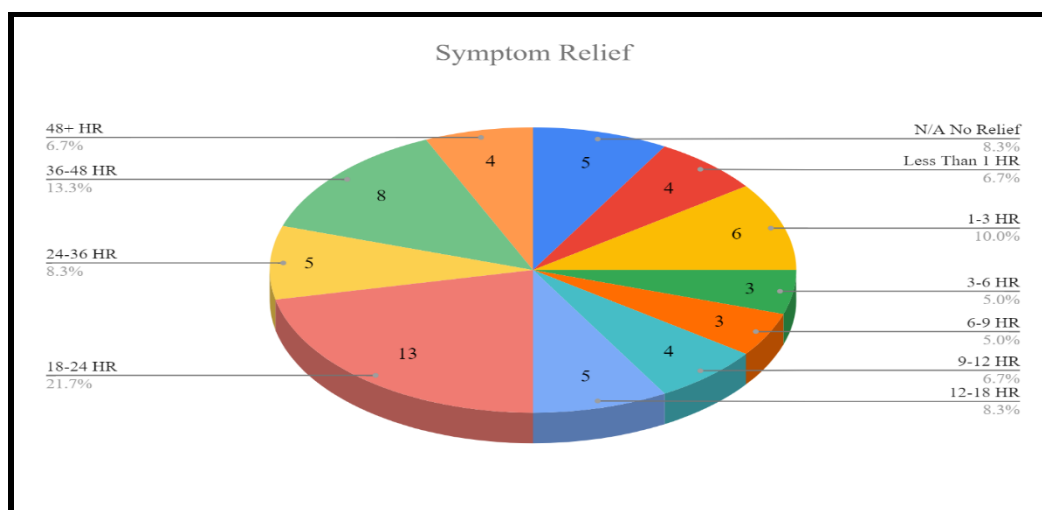


Chart 4 represents the averages of reported symptom relief participants felt post-cupping intervention session. When looking at this data, the top 3 reported hours of feeling symptom relief included the most reported of 18-24 hours, the second most reported of 36-48 hours, and the third most reported of 1-3 hours. When analyzing the data for relief lasting 18-24 hours it was recorded 13 times accumulating to 21.7% on a scale out of 60 reports. Secondly, participants felt symptom relief for 36-48 hours or 13.3%. Lastly, there were 6 reports of pain relief lasting only 1-3 hours. Due to the varying reports of how long symptom relief was prevalent for participants, it can be concluded that more research is needed in this area.

Chart 5: Quality of Life Questionnaire (QOL-BREV)

<u>Question:</u>	<u>Participant Reports:</u>
How would you rate your quality of life?	8/10→ Participants reported positive QOL ratings
How much do you enjoy life?	7/10→ Participants reported positive or stayed the same response 3/10→ Participants reported positive improvement response
To what extent do you feel that (physical) pain prevents you from doing what you need to do?	5/10→ Participants reported “A little amount” 5/10→ Participants reported varied responses

How satisfied are you with your sleep?	7/10→ Participants reported improved or stayed the same responses
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The last data collection measure used was the Quality-of-Life Questionnaire (QOL-BREV) to investigate the correlation between cupping therapy and QOL. These surveys were distributed 3 times through the course of the 4-week participation period during the study to compare participants' initial thoughts regarding their QOL before receiving cupping therapy, halfway through receiving cupping therapy, and by the end of all their sessions. These three surveys were documented, and data was analyzed to find trends and comparisons between each participant. Above in Chart 5 you will find the condensed questions from the questionnaire that were the most significant for the aim of this study. The first main trend discovered using this questionnaire was determining the question *“How would you rate your quality of life”*. The data found that 8 out of 10 participants reported that their QOL had either stayed the same or improved since receiving cupping therapy. The second main trend discovered was regarding the question *“How much do you enjoy life”*. After analyzing these question responses, it was found that 7/10 participants or 70%, felt as if their enjoyment of life had stayed the same and 3/10 or 30% reported their enjoyment of life had improved. When reporting on the question *“To what extent do you feel that (physical) pain prevents you from doing what you need to do?”*, the participant's answers varied. Half of the participants reported that they feel *“a little amount”* of their physical pain prevents them from their daily activities meaning they feel as their physical pain prevents them a small amount from their daily activities. As on the other half of participants, results varied. For the other percentage of participants who reported varying prevention, there were scattered reports of feeling *“a little amount”*, *“a moderate amount”*, and *“not at all”* relating to the extent they feel their physical pain prevents them from their activities.

Lastly, when analyzing the question, “*How satisfied are you with your sleep*”, 7/10 or 70% of participants reported that their sleep had improved since receiving cupping therapy.

Discussion

After the completion of this study, the findings revealed that cupping therapy has the potential to relieve pain and muscle tension within the region of the upper back. After deep analysis of the data, it was found that cupping therapy had more of an immediate relief than long-lasting relief. 8/10 patients reported feelings of relief after receiving cupping therapy along with their reports of their quality of life (QOL) staying the same or increasing. This study also revealed that 7/10 participants' sleep quality and satisfaction stayed the same or increased after receiving this intervention. Overall, participants continuously reported feelings of reduced pain and muscle tension allowing participants to actively engage and participate in daily activities with relief. This study concludes that this modality can be utilized as a preparatory method in the field of occupational therapy providing immediate relief for pain and muscle tension to increase range of motion (ROM), enhance the client's engagement and performance, and increase independence.

Products of Scholarly Component

Along with the study conducted, the scholarly component of this project included multiple different components. These components included multiple submission applications to various magazines and journals within the field of occupational therapy. The first two submission applications were to the Massachusetts Association for Occupational Therapy Conference in November of 2023 and American Occupational Therapy Association Inspire Conference in April of 2024. This is shown in *Appendix G*. The goal of both submissions were to be accepted and

presented at the conferences. The submitted study detailed the benefits of myofascial decompression to reduce pain and muscle tension to enhance participation in daily activities and overall quality of life. A submission to the OT Practice Magazine was also made to highlight chronic pain and the need for pain management within the college student population as found in *Appendix H*. This submission's goal was to highlight how myofascial decompression as a pain management technique can help fill the gap and care along with representing the research study's findings and results from the interventions.

Limitations

Throughout this study there were a few limitations to be noted during the duration of the study and within the interpretation. Those limitations included the sample size, attrition, inclusion criteria, self-reported data, outside factors, and inconsistency with the data. The first limitation of this study was the sample size. Students were unable to join this study of interest due to the conflict of interest with the alignment of their time spent on campus due to summer break. The timing of the study interfered with the student breaks along with daily time which limited the night class students from attending. Students and their data were also taken out of the study due to missed appointments that resulted in inconsistent documentation. Due to potential skewing of the data, some participants were disqualified from the study. Another limitation of the study was the attrition of the number of participants who did not meet the inclusion criteria due to individual contraindications or precautions. Therefore, these factors collectively resulted in a smaller sample size, affecting the ability to generalize full results among the student population. Lastly, another limitation within the study was students' life factors impacting their answers when documenting their Quality of life- BREV survey. Students could have had outside factors that affected their answers when completing their survey such as strenuous work

requirements or Law students studying for the bar affecting their QOL. The last limitation that was noted during this study was pertained to the use of self-reported data. When using this particular form of data, there is the potential risk of student's inability to accurately self-report daily.

Learning Outcomes

During the DEx project, there have been multiple learning opportunities and chances to expand desired knowledge along the way. Throughout this process, the researcher was asked to create a set list of potential learning objectives to accomplish during the process under the supervision and guidance of the faculty and site mentor. One of the main concepts learned was the ability to collaborate effectively and professionally with various professions as part of an interprofessional team and be able to advocate the role of occupational therapy in a nontraditional setting. Over the span of 14 weeks, this researcher had the opportunity to collaborate and work beside both undergraduate and graduate WNE students, students within the Law and OTD program, as well as the faculty and staff of WNE within the OTD department. The researcher was able to brainstorm with different colleagues and students within the cupping clinic; utilizing the chance to learn from others and expand on the horizon of knowledge within the field of interprofessional collaboration for the future development of professional growth.

Another key learning objective achieved from this experience was learning about the population and community through a different lens. The researcher was able to learn about the target population and community by addressing the needs to build the foundation for the DEx, but also to understand the importance and severity of unmet needs within a community. By utilizing a

needs assessment and surveys, the researcher was able to grasp a deeper understanding of the unmet needs and how to help the population.

An additional learning experience that was also provided was the chance to utilize ongoing writing reflections to learn how to articulate clear awareness of own personal and professional strengths and boundaries. Learning and reflecting on my own self was used in support of bringing awareness on how to collaborate and communicate effectively with other professionals. Also, it taught awareness of being able to identify supports and strategies for goal achievement when needed throughout the process.

Lastly, the researcher also learned how to write a scholarly article and how to submit to different scholarly journals or to a professional event to advocate for differing population needs and to spread awareness of OT in nontraditional settings. Finally, the researcher had the opportunity to learn how to conduct an educational in-service and deliver effective and informative information via PowerPoint, handouts, working labs, and how to work with others in a meaningful and professional way using effective communication. The researcher was able to take the research and learned knowledge to deliver educational and important information regarding cupping therapy in an orderly and meaningful way to support future OT students and practitioners.

Discussion and Recommendations

After the completion and evaluation of the doctoral capstone project, there were multiple trends that were analyzed throughout the data. These trends included utilizing cupping therapy as a pain management modality on the upper back within the field of occupational therapy; as it provides immediate relief in reducing pain and muscle tension. Overall, it was found that participants on average felt immediate relief after the majority of sessions. This leads to the

conclusion that using cupping therapy as a preparatory method for occupational therapy (OT) intervention, can lead to better outcomes than OT interventions alone. Cupping therapy has the potential to relieve pain and muscle tension, increase ROM, and enhance the client's participation in daily occupations. The incorporation of cupping therapy within the field of OT has the potential to empower clients, increase independence in daily activities, and provide a simple solution to the issue of pain management.

After the analysis of trends throughout this study, it can be concluded that more research is needed on the long-lasting relief provided when using cupping therapy as a modality. In order to maintain the safety of the client, it is recommended that OT practitioners must be competent in all preparatory methods including the learning and performing of cupping therapy. Further education and research should be utilized prior to cupping.

In conclusion, this study has shown that cupping therapy is a viable way to decrease our patient's pain prior to occupational interventions. Cupping therapy is a relatively safe, easily accessible, and affordable option to relieve pain and muscle tension. Cupping sets can be found and purchased on Amazon for under 50\$. In hopes to perform cupping therapy on yourself, it is recommended to consult with your doctors about any medications or contraindications you might obtain before participating at home.

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Appendices

Appendix A: Educational Handout for Participants.....	31
Appendix B: Educational PowerPoint- Myofascial Decompression & Quality of Life.....	32
Appendix C: In-Service Presentation to Year 2 OTD Cohort.....	33
Appendix D: Needs Assessment & Literature Review.....	34
Appendix E: Data Collection Measures.....	51
Appendix F: Individual Data for Participants.....	52
Appendix G: MAOT & AOTA Conference Submissions.....	54
Appendix H: OT Practice Magazine Submission.....	64
Appendix I: IRB Renewal Approval Form.....	71

BENEFITS OF CUPPING THERAPY

FUNCTIONAL ACTIVITIES IMPACTED BY PAIN:

- Focus in class
- Sitting in class
- Sleeping
- Driving
- Working
- Recreational activities
- Household chores



BENEFITS:

- ✓ DECREASE PAIN
- ✓ DECREASE MUSCLE TENSION
- ✓ INCREASE BLOOD FLOW
- ✓ REDUCE INFLAMMATION
- ✓ ENHANCE LYMPHATIC DRAINAGE
- ✓ INCREASE JOINT MOBILITY
- ✓ IMPROVES IMMUNITY
- ✓ DRAINS EXCESS FLUID AND TOXINS

ANY QUESTIONS? CONTACT US AT:

WNECUPPINGTHERAPYRESEARCH@GMAIL.COM

References



Appendix B: Educational PowerPoint- Myofascial Decompression & Quality of Life

**MYOFASCIAL
DECOMPRESSION &
QUALITY OF LIFE**

BY: MORGAN LUKASIK, OT/s



Scan QR Code for full PowerPoint

Appendix C: In-Service Presentation to Year 2 OTD Cohort

Myofascial Decompression (Cupping Therapy)

Western New England University
Doctor of Occupational Therapy
OTD 780-07: Doctoral Experiential 4:
Implementation/Capstone
Dr. Erin Murray
Michaela Gallagher, Morgan Lukasik, Justin
Murata, and Kaeli Serafino

A photograph showing a person lying on their back, receiving cupping therapy. Several glass cups are suctioned to the skin on the upper back and shoulder blades. The person is wearing a black sports bra. The background is a light blue surface.

Scan QR Code for full PowerPoint

Appendix D: Needs Assessment & Literature Review

Needs Assessment

Problem and Unmet Need

The over prescription of opioids and narcotics for individuals with chronic pain is a problem within the United States. Chronic pain is a type of pain that is ongoing and usually lasts longer than six months. Chronic pain can highly impact an individual's life by limiting performance and function with activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Based upon 2019 research, it was reported that 20.4% of adults experience chronic pain in the United States (Center of Disease Control and Prevention, 2020). Healthcare providers have prescribed pain medication such as opioids and narcotics at greater rates which increases the occurrence of addiction, overdose, and other health complications. These healthcare providers need more holistic pain-reducing treatments to reduce the possible risks associated with pain medications. Recently, there has been a growing interest in non-pharmacological pain treatment options such as myofascial decompression (Cramer et al., 2020).

Myofascial decompression, which is also known as cupping therapy, is a relatively new modality in the United States. Cupping therapy is a form of alternative therapy which involves placing specific cups on the skin to create suction. It has potential benefits of increasing blood circulation, relieving muscle tension, improving overall blood flow, and reducing chronic pain (Healthline, 2019). There is a need for the adoption of cupping therapy throughout different professions in healthcare including occupational therapy (OT), for these services to become more accessible to different communities, and to provide more holistic services in areas of poverty. It

is important that OTs adopt this modality into their pain management treatment because of their holistic approach and focus on independence in ADLs and IADLs.

Pain and Quality of Life Within College Students

Pain can have a significant impact on a student's quality of life and academic performance. Students who experience chronic pain have a higher risk of developing mental health conditions such as anxiety and depression which impact their quality of life (Alsaadi, 2022) . These mental health conditions can further exacerbate their pain symptoms and impact their ability to engage in their daily occupations outside of their role as a student. In addition, pain can interfere with a student's sleep patterns such as quality, duration, and efficiency which impacts their executive functioning skills that affect their concentration and focus during class (Noel et al., 2016). Chronic pain can also have a significant impact on a student's quality of life, as it can interfere with their activities of daily living, social, and leisure occupations. Students with chronic pain may experience physical limitations such as difficulty with functional mobility which can make it challenging for them to participate in extracurricular activities that they enjoy. As a result, students with chronic pain may miss out on important educational opportunities, experience academic decline, and struggle to achieve their full potential.

Target Population

The target population for this study includes students at Western New England University (WNE) whose pain and/or muscle tension impact their ability to independently engage in their daily activities. Throughout this capstone, the researchers will be focusing on students who experience pain and/or muscle tension in their arms (triceps, biceps, forearm),

shoulder, cervical region of the spine(neck), thoracic region of back (upper back), and lumbar region of back (lower back).

Based on a study conducted by Saad M. Alsaadi (2022), the most common sites of musculoskeletal pain in students include the neck and back. Approximately 41.9% to 54.6% of students experienced pain within their neck and 48.2% to 49.4% experienced it within the back. Students reported that their pain had impacted their daily life and quality of sleep (Alsaadi, 2022). When students' pain begins to impact their daily activities, they are unable to fully participate in leisure activities and school related activities. The inability to be independent in these daily activities correlates with difficulties in mental health regarding stress, anxiety, and depression impacting their quality of life (Alsaadi, 2022). This target population was selected to make a pain management technique such as cupping therapy more accessible to these students to prevent these difficulties in quality of life and limited independence.

According to WNE student statistics, the student population consists of students that are from 38 different states and 22 different countries (Western New England University, n.d.). As a high majority of these students are from different states and countries, they may be aware that their local and available pain management resources may be in Springfield, Massachusetts. Along with the limited resources these students may have financial worries which have impacted their decision to seek out pain management options. College students have a high rate of stress regarding concerns with paying back loans, cost of tuition, academic supplies, and cost of living due to their inability to work full-time while they are in school, which impacts their quality of life (Moore et al., 2021). The target population of WNE students were chosen specifically to assess their needs for pain management and given resources for cost-effective pain management options such as cupping therapy. In addition, this population is targeted because there is a need

for nonpharmacological treatment for pain management. This population would greatly benefit from cupping therapy as a holistic approach to pain management and increase their quality of life. At WNE, there are currently no cupping therapy services which is a gap in care and subsequently leaves a need for students to have access to this therapy.

Literature Review

Introduction

Cupping therapy is a traditional Chinese medical treatment which has been practiced for thousands of years. The World Health Organization's (WHO) definition of cupping is a therapeutic method involving the application of suction by creating a vacuum (WHO Library Cataloguing in Publication Data, 2007). There are a variety of different techniques and materials that can be used with cupping therapy. Common techniques of cupping therapy include dry cupping, wet cupping, massage cupping and flash cupping. Within these different techniques, cup materials may vary between glass, silicone, plastic, bamboo, rubber, metal, or ceramic. When performing cupping therapy, it is important to know these different materials and techniques along with indications and contraindications for the safety of the client. Indications for cupping therapy include localized conditions that cause pain or muscle tension in the neck, back, shoulder, and knee.

The suction produced through cupping induces negative pressure inside the cup. Throughout a range of studies, it is hypothesized that inducing this negative pressure attracts blood to the area of pain, thereby removing blood stasis and increasing blood and lymph circulation locally to relieve tension and pain of the muscle (Chen et al., 2014). These physiological changes can be beneficial in treating pain and/or muscle tension found within the

body. Furthermore, a literature review has been completed comparing different themes found within areas of the neck and lower back, strengths, and weaknesses.

Effectiveness and Benefits of Cupping Therapy

Researchers have conducted studies on cupping therapy to determine its overall effectiveness on individuals who have experienced pain or muscle tension. After reviewing the literature, multiple studies have proved that cupping therapy can be used as either a potential or effective treatment method to reduce pain or muscle tension (Aboushanab & AlSanad, 2018; Arsan et al., 2015; Lauche et al., 2011; Moura et al., 2018; Saha et al., 2017; Teut et al., 2018; Volpato et al., 2020; Wang et al., 2020). Within these studies, most individuals were experiencing back or neck pain which has impacted these individual's daily life and their occupational performance. After their treatment, their overall quality of life has increased due to decreased pain and muscle tension. A holistic, safe, and alternative treatment option such as cupping therapy can also provide benefits such as promoting the skin's blood flow, reducing inflammation, promoting overall health, preventing pain and muscle tension, providing therapeutic relief, and increasing an individual's overall quality of life (Aboushanab & AlSanad, 2018; Wang et al., 2020).

Common Methods Used to Determine Effectiveness

Comparing similarities among the findings, the most used method of measuring outcomes was the visual analogue scale (VAS). The VAS was consistently used among the references and presented with lower scores after treatment implying that the cupping modality helped with their pain (Akbarzadeh et al., 2014; Lauche et al., 2011; Lauche et al., 2012; Leem, 2014; Markowski et al., 2014; Saha et al., 2017; Singh & Siahpush, 2016; Wang et al., 2017; Wang & Tang, 2020).

This instrument is an assessment tool used before and after the intervention for measuring pain to monitor and quantify an increase or decrease in pain. Another common outcome measure is the health related QOL questionnaire. It was used pre- and post-test treatment (Kim et al., 2018; Lauche et al., 2011; Lauche et al., 2012; Leem, 2014; Saha et al., 2017; Teut et al., 2018). The Quality of Life Questionnaire was also used as an outcome measure on multiple different body parts such as the neck, shoulders, and back pain. Chronic pain and muscle tension can be debilitating and can affect an individual's quality of life. One study found that cupping therapy can have a significant improvement on the quality of life among the pain management population. When reflecting upon the use of cupping therapy on neck pain, it was stated that after completing cupping treatments, there were sustainable effects on both quality of life and physical function for up to two years with patients experiencing chronic neck pain (Leem, 2014). In addition, improvements were found in quality of sleep and aiding one's quality of life using cupping therapy within just one week of starting treatments (Volpato et al., 2020).

Common Needs in Further Research

According to the literature review conducted it was found that cupping was beneficial in reducing pain and increasing QOL, but there is also limited information available on the topic using randomized control trials, which are needed to improve the validity of the evidence (Cramer et al., 2020; Lauche et al., 2012; Leem, 2014; Moura et al., 2018; Saha et al., 2017; Volpato et al., 2020). It was found that cupping massage was effective in increasing quality of life for patients with chronic non-specific neck pain, but more rigorous studies are needed to confirm and extend these results (Saha et al., 2017). When certain studies were conducted, there was no current information about cupping for chronic non-specific neck pain. Therefore, it was found that more studies are needed to back up the findings. These studies were also met with

many limitations including several patients dropping out of the study creating a decreased sample size. Overall, it was found across the articles Cramer et al., 2020; Lauche et al., 2012; Leem, 2014; Moura et al., 2018; Saha et al., 2017; and Volpato et al., 2020, that cupping is useful in decreasing pain and increasing quality of life. However these studies above also noted that in order to have concrete evidence to back up this claim, more randomized control trials are needed; specifically, randomized control trials with long term follow up and larger sample sizes. If these studies can be conducted more concrete evidence will be able to be formulated for the usefulness of cupping therapy.

Alternative Data to the Effectiveness of Cupping Therapy

Although there are many articles proving that cupping therapy is effective for relieving pain and reducing muscle tension, there are some articles that resulted in no improvements (Lauche et al., 2011; Lauche et al., 2012; Silva et al., 2019; Silva et al., 2021). For example, one study stated that their participants reported their pain intensity on the lower end of their inclusion criteria scale. This means that the participants had zero to minimal pain from the beginning or that they exaggerated their complaints during screening to ensure inclusion into the study which likely limited the possible absolute reduction in pain intensity (Lauche et al., 2012). Another reason that cupping therapy did not show improvement is that individuals reported different pain thresholds (Lauche et al., 2011). Another study compared cupping therapy to placebo cupping and noted that similar improvements in all outcomes was likely a consequence of the placebo effect (Silva et al., 2019; Silva et al., 2021). As a result, future studies with more well-defined inclusion/exclusion criteria for participants in pain are needed to prove that cupping can be used as a beneficial therapeutic modality and to reduce the consequence of the placebo effect.

Conclusion

Even though cupping therapy has been used therapeutically for thousands of years in Eastern medicine, there is still a need to research this therapeutic modality further (Aboushanab & AlSanad, 2018). Most research studies have shown evidence that proves that cupping is an effective treatment for relieving pain and muscle tension. The research has also shown that there have been significant findings with improvements regarding quality of life after treatment. However, there is still a need for research, utilizing more randomized controlled trials with larger sample sizes to further prove its effectiveness and reliability as a pain management treatment.

Resource Availability

Cupping sets can be found on online retailers such as Amazon or Walmart making it widely available for consumers to purchase. The difference between self treatment compared treatment at outpatient clinics including physical therapy, massage therapy, or Western New England University's athletic training (WNE AT) facility is that there is minimal to no education provided on the implications, contraindications, or procedures when purchasing a cupping kit online. A skilled clinician has the knowledge of anatomy and an understanding of kinesiology to apply cups safely and properly without putting a client in danger. A clinician with a medical background will have higher health literacy and require less extensive formal training as compared to an individual without a healthcare background. For example, a client at home may be placing cups on areas that have pain without fully understanding precautions ensuring their safety when using this modality. Similarly, a client at home may not be educated on the contraindications to cupping therapy which may exclude them from being a candidate for this modality. Clients at home have the opportunity to educate themselves through research,

however, they may have lower health literacy to understand the research they find and how to implement it into their practice the way healthcare professionals can. Some precautions and contraindications that at-home users need to take into consideration when applying cupping therapy include no cupping on open wounds, rashes, sensitive skin, fractures, or individuals who experience different skin conditions, chronic illnesses, hematologic disease, on blood thinners, or have congestive heart failure (Aboushanab & AlSanad, 2018).

However, clinical education on cupping is often costly whether that is taking paid online courses such as Certified ACE Massage Cupping or by reading articles such as this article titled Cupping for Treating Pain: A Systematic Review (Kim et al., 2018). There are also limitations to going to outside clinicians and programs such as WNE AT's program for regular services due to limited accessibility as it is currently only offered to the college's athletes. The therapist may make exceptions to this rule, but there may be other limits in accessibility due to co-pays or lack of transportation if needed.

The WNE's athletic training program is a limited resource as myofascial decompression is only available to student-athletes. Recently the University has developed the Bear Paw Center which is available to WNE students and members of the Springfield community which serves as a *pro bono* clinic run by WNE OTD students who can treat a variety of conditions, including chronic pain.

The researchers' goals are to educate and provide an in-service to the OTD students and faculty about what myofascial decompression is, its protocols, contraindications, precautions, and how to properly perform cupping therapy on individuals experiencing pain. Those who participate in the Bear Paw Clinic will have this education and be able to implement it into

practice with clients who experience chronic pain and/or muscle tension. This clinic will serve as a resource for the WNE students to continue to receive cupping therapy treatment at no additional cost to them.

Barriers

Cupping therapy is a new and unfamiliar modality that has recently made its way to the United States as a client-centered technique that can support pain management. With that being said, the United States has recently adopted this practice and is still very unknown to many people seeking treatment for pain management, especially with the target population. Because of this recent adoption into medicine, there are some barriers that individuals might be faced with when seeking out use of this modality. One major barrier would involve the lack of knowledge regarding the use of cupping therapy (Markowski et al., 2014). Due to the recent adoption in the US many people are uneducated and lack knowledge on this modality and its many benefits in regard to pain and muscle tension relief. Especially in younger clinicians, there may be a gap of knowledge in treating pain nontraditionally. This can result in a major barrier to receiving this type of treatment.

Another barrier for this population would be access to this modality on campus. When attending college, many students travel far from home and do not have primary care doctors established around their college campus. Therefore, they rely on health services for most of their treatment unless they are an athlete as they have access to cupping through the athletic trainers during their training season. When they are not in season it becomes more difficult to get cupping from athletic trainers as they prioritize in season athletes for treatment. This then poses the same barrier as it does for non-athletic college students, there is nowhere on campus to get this

treatment. Due to health services not offering pain management through cupping, many students in this target population will be missing out on this modality to assist with their pain.

Barriers within the WNE community may also include financial burdens of being a college student, living far from home, and not having access to their primary healthcare physicians. These barriers can affect the ability to access healthcare, pain management services, or cupping therapy (Bodenheimer, 2005). Financial burdens can prevent access to transportation, education of services, and insurance for pain management services. There has been a reported increase in out-of-pocket payments for people with chronic conditions which in turn leads to discouraging people to get health care and participate in programs to manage their illness (Paez et al., 2009). This can be seen in this young population as well, due to the financial burden healthcare can cause as well as the lack of access to a person's primary healthcare, especially in chronic cases, as people are discouraged from getting the help they need. Also, because there is a high demand for medical care within the communities, this creates difficulties in receiving healthcare appointments or referrals, especially following the COVID-19 pandemic.

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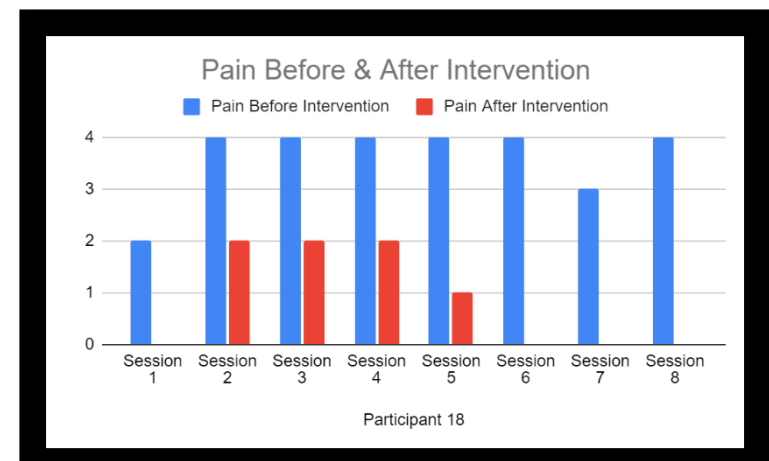
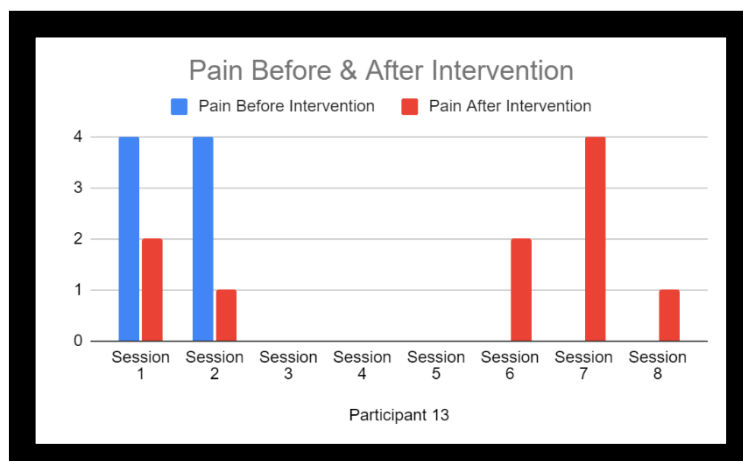
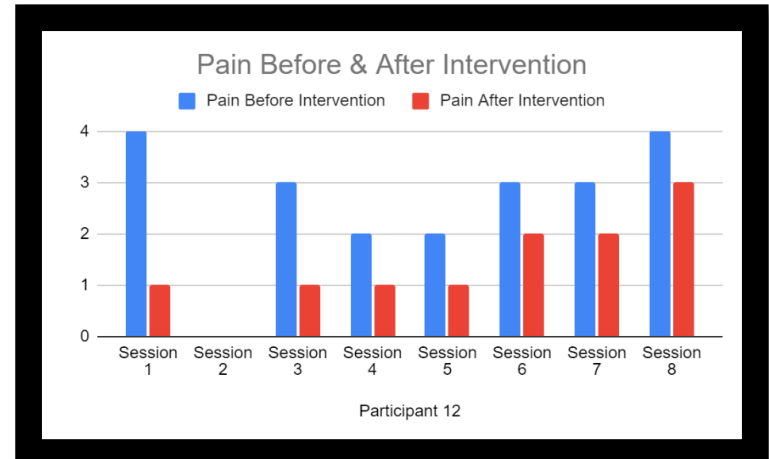
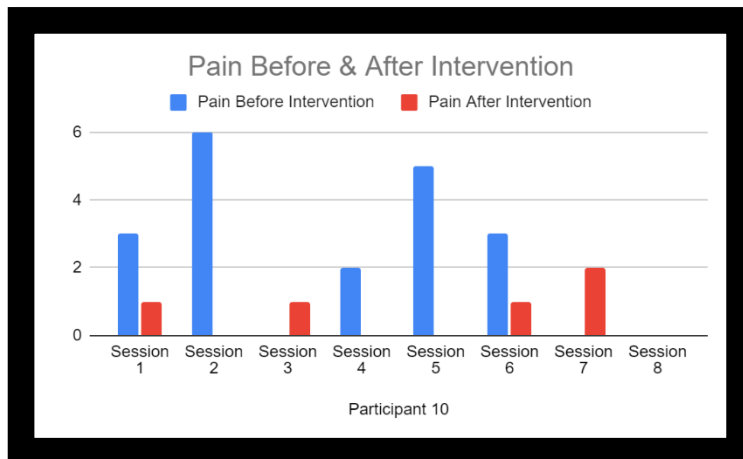
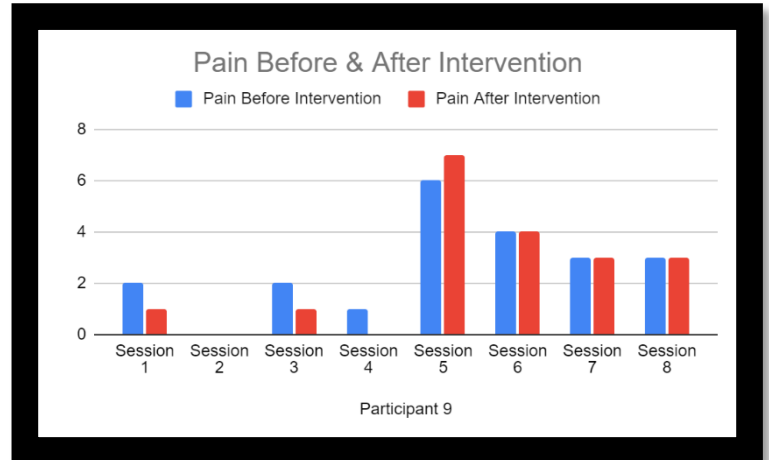
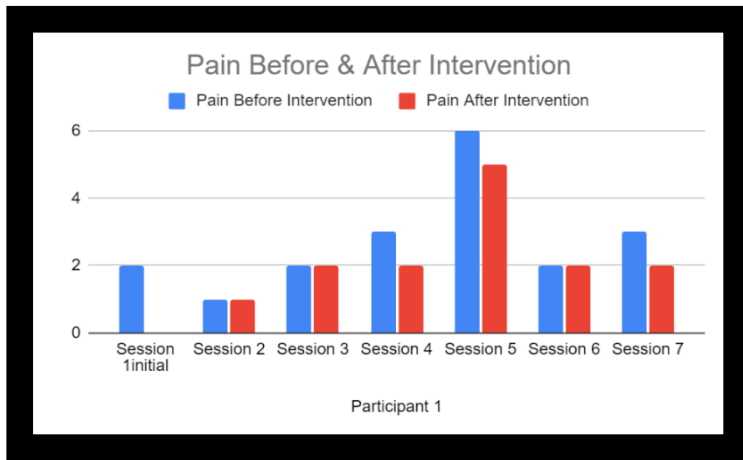
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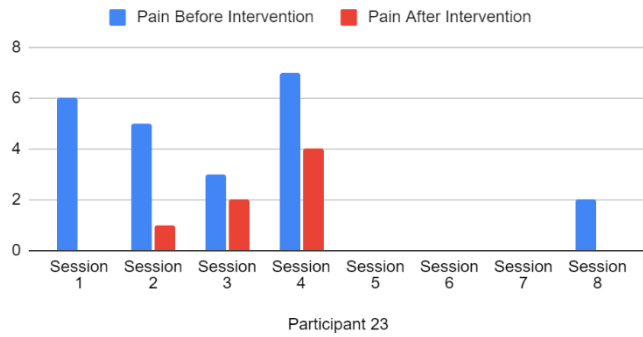
Appendix E: Data Collection Measures

<p>Recruitment Survey</p> 	<p>Initial Intervention Survey</p> 	<p>Post Intervention Survey</p> 
<p>Initial Quality of Life Survey</p> 	<p>Final Quality of Life Survey</p> 	<p>Upper Back Pain Log</p> 

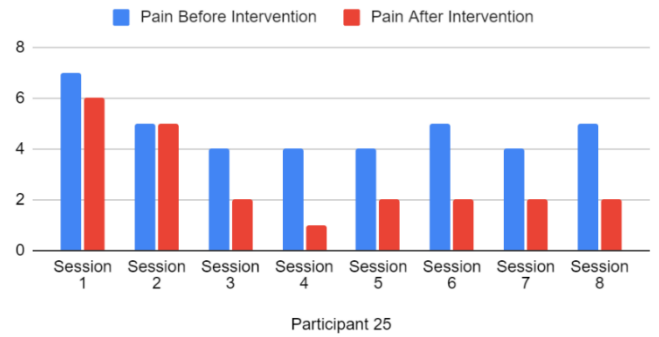
Appendix F: Individual Data for Participants



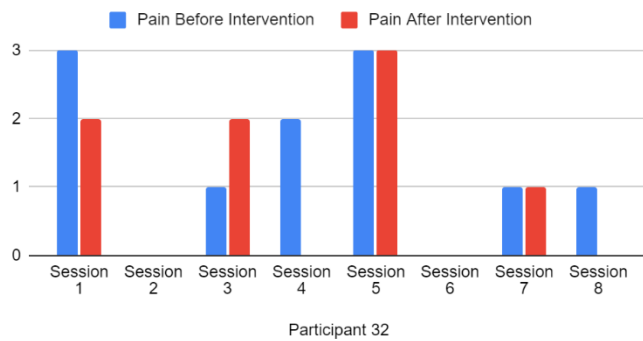
Pain Before & After Intervention



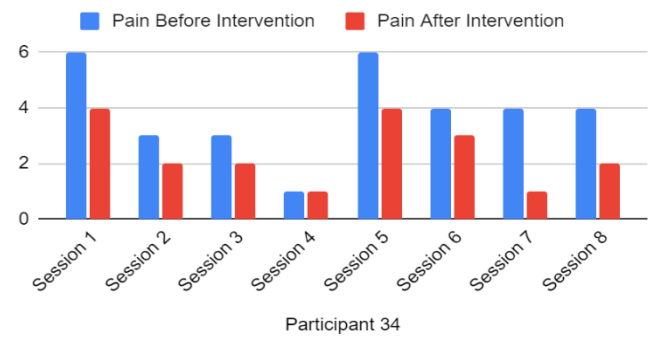
Pain Before & After Intervention



Pain Before & After Intervention



Pain Before & After Intervention



Appendix G: MAOT & AOTA Conference Submissions

MAOT 2023 Conference Submission



CALL FOR PROPOSALS - CONFERENCE 2023

- Proposals must be received via email to info@maot.org by May 31, 2023
- Form must be completed electronically
- Each proposal must include resumes for each presenter
- Provider Agreement/Disclosure/Attestation form must be signed by each presenter

Title of Presentation or Poster (Limit 8 words or less):

Improving Participation in Daily Occupations Using Myofascial Decompression

Presenter #1

Name, Credentials, Job Title, Affiliation or Organization: (This presenter will be the primary contact person for the MAOT Conference Committee) Kaeli Serafino OT/s, third year OTD student at Western New England University.

Phone: 413-388-9432

Email: ks358859@wne.edu

Presenter #2

Name, Credentials, Job Title, Affiliation or Organization: Michaela Gallagher OT/s, third year OTD student at Western New England University.

Phone: 774-313-7541

Email: Michaela.gallagher@wne.edu

Presenter #3

Name, Credentials, Job Title, Affiliation or Organization: Justin Murata OT/s, third year OTD student at Western New England University

Phone: 928-551-0011

Email: justin.murata@wne.edu

(Add additional presenters as needed by including an additional a document with Presenter info and biographical sketch)

Presentation Abstract (75 words or less to be published in the brochure): Students at Western New England University participated in a four-week research study. The study focused on the effects of myofascial decompression interventions on pain, muscle tension, daily performance, and quality of life. Assessments such as the Quick DASH, Quality of Life Scale, and Wong-Baker Pain Scale were used to measure the impact of the intervention. The goal was to determine if the interventions could reduce pain and tension while improving overall well-being and daily functioning.

Learning Objectives (3):

By the end of this presentation/poster, participants will be able to:

1. By the end of this presentation, participants will be able to describe three overall benefits of myofascial decompression on pain and muscle tension.

2. By the end of this presentation, participants will be able to describe three precautions and three contraindications of myofascial decompression as a modality.

3. By the end of this presentation, participants will be able to identify three daily occupations that can be improved through the use of myofascial decompression

Proposal (250-500 words for presentation, 150-250 words for poster):

The aim of this study is to investigate the effectiveness of myofascial decompression to reduce pain and muscular tension to enhance participation in daily activities and overall quality of life. The research method of this study includes myofascial decompression through the application of cupping. The study looks at the effectiveness of this instrument assisted soft tissue mobilization technique when applied twice per week for four weeks to a sample of undergraduate and graduate students enrolled at Western New England University. This study utilizes objective measures including the World Health Organization Quality of Life Scale, Quick DASH, and Wong Baker Pain Scale to assess the effectiveness of the modality on the neck, shoulders and arms, upper back, and lower back. These results can be used as a resource in the field of occupational therapy and incorporated into evidence-based practice for practitioners who are seeking a more holistic and sustainable pain management technique. By using this instrument assisted soft tissue mobilization technique, practitioners can provide their clients with complimentary or alternative approaches to pain management. This modality is sustainable within the field of occupational therapy as it is affordable, requires minimal training, and is highly accessible to obtain materials for interventions.

References (3-5 references within the past 5 years using APA-7th edition):

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If you are promoting a product within your presentation or poster, please check here: ☐

Educational Level (select one): Refer to **Tip Sheet** for descriptions of each level.

☐ Student

☒ **Introductory**

☐ Intermediate ☐

Advanced

Preferred Length (select one):

☐ Full Day ☐

1.5 hour

☐ 1 Hour

☐ 30 Minutes (first-time presenters & students only)

☒ **Poster Presentation** **Content**

Area:

☐ Administration/

☐ Home Health

☐ Professional

Leadership

☐ Justice/Equity/

Development

☐ Acute Care/Hospital Clinical

Diversity/Inclusion

Practice	(JEDI)	
<input type="checkbox"/> Aquatics	<input type="checkbox"/> Mental Health	<input type="checkbox"/> Research
<input type="checkbox"/> Assistive Technology	<input type="checkbox"/> Neurology	<input type="checkbox"/> Sensory Integration/Sensory Processing
<input type="checkbox"/> Cardiopulmonary Care	<input type="checkbox"/> Oncology	<input type="checkbox"/> Sports
<input type="checkbox"/> Developmental Disabilities	<input type="checkbox"/> OT/OTA Education	<input type="checkbox"/> Women's Health <input type="checkbox"/> Work Practice/Industrial Rehabilitation
<input type="checkbox"/> Orthopedics	<input type="checkbox"/> Pain Management	
<input type="checkbox"/> Emerging Practice	<input type="checkbox"/> Pediatrics/School- Based Practice	<input type="checkbox"/> Wound Care
<input type="checkbox"/> Ethics	<input type="checkbox"/> Physical Disabilities	<input type="checkbox"/> Other
<input type="checkbox"/> Gerontology	<input type="checkbox"/> Prevention/Wellness	
<input type="checkbox"/> Hand Rehabilitation		

Biographical Sketch (200 words or less for each presenter for introduction at the conference): **Presenter #1** Kaeli Serafino is a Doctor of Occupational therapy student entering her final semester at Western New England University. Kaeli is set to graduate with her Doctorate in Occupational Therapy in July 2023.

Throughout her studies at Western New England University, she has developed a research project focused on myofascial decompression's effects on pain and muscle tension and its impact on quality of life. She completed a pilot study gaining information from professionals who use myofascial decompression in their own practice to treat pain and muscle tension. This preliminary research helped fuel the research being presented as she is now working with her co-researchers to perform myofascial decompression on the neck, shoulders, arms, upper back, and lower back to students at Western New England University who have volunteered to be part of this study and have met the inclusion criteria of having chronic pain that impacts their daily performance. The data from this study will show the impact myofascial decompression has on pain and muscle tension and overall quality of life for participants. The aim of this study is to prove its effectiveness in these areas and educate other clinicians on this holistic technique to help clients with similar struggles.

Presenter #2 Michaela Gallagher is a third- year graduate student in the entry-level Doctor of Occupational Therapy (OTD) program in the College of Pharmacy and Health Sciences at Western New England University (WNE). She is expected to graduate in July, 2023. Throughout her time in this graduate program, Michaela has acquired an interest in physical agent modalities and instrument assisted soft tissue mobilization techniques for pain management within the upper extremity. For her doctoral capstone, she chose to investigate the effects that myofascial decompression has on the upper

extremity and how these outcomes can lead to the potential of increased quality of life and performance within daily activities of participants.

Throughout her Level II OT fieldwork, she was placed into a hand and upper extremity clinic, where she was exposed to multiple prevention techniques for pain and muscle tension. At this clinic, she advocated for myofascial decompression to be implemented into the clinic. Michaela also embraced the opportunity to educate others on the benefits of this modality and promote awareness of a pain management intervention that can be accessible to multiple populations.

Presenter #3 Justin Murata is in his third year as a Doctor of Occupational Therapy student at Western New England University and is expected to graduate in July 2023. His Doctoral Experiential Capstone project focuses on the effects of myofascial decompression on pain and muscle tension, as well as, improving occupational performance in daily activities. He has been inspired to pursue this current topic when he first learned about holistic interventions such as myofascial decompression during his study abroad program in Taichung, Taiwan in 2015. His passion grew more intensely for alternative medicine when he previously worked in an outpatient therapy clinic where myofascial decompression was utilized on multiple populations ranging from Olympic athletes to older adults who sought to reduce their need for pain medications due to its intense side effects and addictive properties.

(Add additional presenters as needed by including an additional a document with Presenter info and biographical sketch)

Please include a copy of recent resume for each presenter and email completed proposal and resumes to info@maot.org by May 31, 2023.

Thank you!

-MAOT Conference Committee

Presenter 4: Morgan Lukasik OT/s, third year student at Western New England University.

Biographical Sketch: Morgan Lukasik is a third-year graduate student in the entry-level Doctor of Occupational Therapy program at Western New England University (WNE). Throughout her time at WNE, Morgan had the opportunity to gain hands-on experience and explored non-pharmacological pain management techniques and modalities. During her Level II fieldwork, she worked in an acute rehabilitation hospital and gained further knowledge and experience working with the chronic pain population. She was exposed to prevention techniques, modalities, and was able to advocate and educate her patients on non-pharmacological pain management techniques. During this time and with additional investigation, she was able to educate herself and on the benefits of myofascial decompression and how it can decrease pain and muscle tension and increase overall quality of life on daily occupations. For her doctoral capstone, Morgan chose to investigate the effects of myofascial decompression on the upper back region regarding how this technique can increase quality of life and improve performance. She aims to educate upcoming doctoral students and occupational therapists on the benefits, precautions, protocols, and procedure of myofascial decompression as a pain management modality to adopt into the field of occupational therapy to improve overall quality of life and increase daily occupational participation.



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This Agreement is made in reference to any “Content” that is being submitted to the Massachusetts Association of Occupational Therapy, Inc. (“MAOT”-first party) and the Course Provider/s (“Provider/s”-second party). For the purposes of this agreement, “Content” means any information, data, or works of authorship, including videos, images, lectures, course materials, brochures, resumes, schedules, and syllabi. The “Provider/s”

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“Provider/s” attest that to the best of my knowledge, “Provider” has all necessary rights and authority to grant the rights herein granted with respect to the “Content” provider/s upload, share, or otherwise provide in connection with their engagement in the Approved Provider Program. “Provider/s” attest that to the best of their knowledge, none of the Content contained within the submission is copyrighted and that all content is used within the parameters of the Fair Use doctrine.

The Provider/s further represent that “Provider/s” have used and will use best efforts; (i) not to incorporate or use any libelous, slanderous, or infringing Content; (ii) not to incorporate or use any Content containing obvious bias or discriminatory language; and (iii) to consider learners with disabilities in the preparation and presentation of Content for such course(s), such as verbally describing visual elements for the visually impaired.

Changing Content Following Submission

“Provider/s attest that to the best of Providers’ knowledge, Content Providers submit for approval with MAOT’s Approved Provider Program will remain unchanged between the time of approval and the course completion date(s). “Provider/s” acknowledges that if providers make changes to the content following the initial submission, “Provider/s” will submit a notice of

changes to MAOT at least 30 days prior to the course date(s). “Provider/s” understand that “Providers’ application may not be changed once fully completed and approved.

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“Provider/s” affirm that *Provider/s* is/are in good standing with the profession *provider/s* is/are affiliated with, as applicable by local, state, & federal laws, “Provider/s” demonstrate a high standard of professional conduct and code of ethics, and “Provider/s” do not discriminate against participants based on gender, sexual orientation, age, disability, socio-economic or ethnic background, etc.

Conflict of Interest Disclosure

All presenters and speakers must disclose any financial interest or their relationships (i.e., manufacturers, vendors, grant sources, research support, consultants' relationships, etc.) with the content of the course (i.e., the products, services, or outcomes, etc.) that may be discussed in the educational activity/ course. It is imperative that all conflicts of interest must be identified by the provider/speaker prior to the course so that participants of the educational program may have these facts fully disclosed prior to the course and may form their own judgment about the presentation. The commercial support standard requires that presentations give a balanced view of opinions, preferably using generic names. If it is necessary to use a Trade name, then please use those of several companies, if possible, and/or disclose any conflict of interest. Providers must not promote their own product without addressing value to practice, conflict of interest statement, and disclaimer statement of financial interest. The providers must provide in writing all conflicts of interest, if any, to the MAOT.

“Provider/s” attest that “Provider/s” will not PROMOTE or SELL products or services as a part of this course.

“Provider/s” hereby release, discharge, promise not to sue, and hold harmless MAOT and its affiliates, successors, Board Members & its appointees/ nominees, & assignees from and against any and all claims, demands, and/or causes of action arising out of or in connection with the exercise of any rights herein granted, including, without limitation, any claim for infringement, right of publicity, libel, slander, defamation, moral rights, invasion of privacy or violation of any other rights relating to any Content I upload, share or otherwise provide in connection with use of the Platform. “Provider/s” certifies and represents that “Provider/s” have read this document and fully understands its meaning and effect. “Provider/s” also attest under the pains of perjury that “Provider/s” is/are authorized to sign this document.

____ “Provider/s” agree to all above statements, attestations, disclosures, disclaimers, Agreements, etc.

Provider/s Signature: Morgan Lukasik

Date: 6/1/2023_____

Note: Printed/electronic/typed signatures will constitute your legal signature in accordance with the applicable laws

Proposal Submission for INSPIRE 2024

Welcome to the AOTA Proposal Submission Form!

8652 - Improving Participation in Daily Occupations Using Myofascial Decompression

Conference: INSPIRE 2024

Type Of Proposal: General

Submission Status: Completed

Acceptance Status: Pending · [View Reviewer Feedback](#)

[View/Print](#) | [Withdraw](#)



Scan QR Code to view entire submission

Appendix H: OT Practice Journal Submission

The Silent Struggle: College Students and Pain Impacting Occupational Performance

By: Michaela Gallagher, OT/s; Morgan Lukasik, OT/s; Justin Murata, OT/s; and Kaeli Serafino,
OT/s

Introduction

College life is often romanticized as a time of discovery, growth, and endless possibilities. However, beneath the surface, many students face a hidden battle that threatens to undermine their academic pursuits and overall well-being: Chronic pain. Throughout our academic experience, we have observed and experienced firsthand how chronic pain can affect mental, physical, and emotional performance in and outside the classroom. The impact of chronic pain can reach deep into a student's academic performance, mental well-being, and overall quality of life. Furthermore, pain often extends into daily living activities, social interactions, and participation in leisure activities. In addition, pain can also interfere with a student's quality, duration, and efficiency of sleep patterns, impacting their executive functioning skills such as concentration and sustained attention during class (Noel et al., 2016). The limitations imposed by pain often result in missed opportunities, academic decline, and unfulfilled student potential. Research has shown that students dealing with chronic pain face a higher risk of developing mental health conditions, such as anxiety and depression, which further worsen their pain symptoms and hinder their ability to engage in daily activities (Alsaadi, 2022).

Methods

Doctor of Occupational Therapy (OTD) students at Western New England University (WNE), created a research study investigating the effects of cupping therapy on students at WNE. Additionally, the effects of this modality on improving occupational performance were investigated. Included in this study were 23 students from WNE experiencing pain in the upper back, neck, lower back, arm, and/or shoulder and whose pain impacted their occupational performance. Participants received myofascial decompression (cupping therapy) twice weekly for a total of 4 weeks. Participants had at least one rest day in between their sessions. Furthermore, there was a 2-week intermission between the first and last 2 weeks of the study due to campus closure and summer break. Prior to each session, participants filled out a pain log identifying their current pain level and stressors that impacted their pain. This survey also required participants to explain if they felt any relief from the session, for how long, and if they felt better, worse, or no difference after their previous session.

During the intervention, the skin was prepared with an alcohol swab and lotion for sanitation and comfort. Cups were strategically placed on pre-identified muscle groups attentively targeting the client's pain and muscle tension. Once areas of concern were identified, the researchers set a timer and let the cups gently adhere to the skin's surface for 8 minutes. After the cups were removed, they were asked to give another pain rating on the Wong-Baker Pain Scale to compare immediate results to their pain before intervention. Participants filled out a QOL-BREF survey during the first and last sessions to compare how their quality of life has been impacted throughout the pain relief process.

Case Studies

Neck

This participant is a graduate student who also worked two jobs. This participant is extremely active and wakes up every morning to exercise before they go to work. They had sustained a ski accident in the past which caused them to have chronic pain, exacerbated when exercising or being physically active. This led this individual to be in pain every day with significant pain in the neck. After cupping, this participant reported they had experienced improved sleep throughout the time-they were being cupped and felt day-to-day activities became easier and their recovery from intense exercise became easier. Additionally, there was immediate relief of pain and tension after interventions. This was reflected in the data collected which showed on average a decrease in pain of -3.5 on a 1-10 scale. This participant had reported through their pain logs that there was immediate relief at 100% of sessions and an average of eighteen hours of sustained relief after sessions.

Lower Back

This participant is a law student and community legal aid who embarked on a transformative journey in search of pain management alternatives. Hindered by chronic pain resulting from stress fractures and a recent mastectomy, they sought refuge from prescribed medications and turned to cupping therapy. Participating in our research study, Participant 29 experienced significant relief after two weeks, with their pain levels decreasing from an average of 6 to 2 out of 10. Empowered by their progress, they eagerly continued the research study, finding solace in the fact that their pain diminished from a 5 to a 2 out of 10 lasting about 48 hours after the four weeks. They expressed their gratitude for the study, which ultimately led to

improved sleep, a 60% reduction in pain, and an overall enhancement in their quality of life. Such positive outcomes prompted them to invest in a cupping set for ongoing self-care.

By embracing cupping therapy, this participant rediscovered their ability to engage in activities they once loved, reclaiming a sense of freedom and autonomy. This case study underscores the vital role of occupational therapy in promoting well-being and offering alternative pain management solutions. This participant's story serves as an inspiration for others, highlighting the transformative impact of occupational therapy interventions in fostering empowerment, resilience, and a renewed zest for life.

Upper Back

This participant is a first-year OTD student at WNE. In addition to being a full-time student, they dedicated their time to working remotely which was reported to cause back pain. In addition to attending graduate school, this client's hobbies include working out, socializing with friends, and being in nature. Over the course of the study, the participant received a total of 8 cupping sessions, in which the client's pain-significantly reduced throughout each session. Following each session, the client reported immediate relief after each session. After the first initial session, the client reported "I feel so much better". This client's pain relief progress is a prime example of the effectiveness of utilizing cupping therapy to decrease pain and muscle tension. They also reported feeling immediate from anywhere from 24-48+ hours post-cupping intervention. After analyzing the documentation regarding the client's results, it was also found that sleep improved from being neither satisfied nor dissatisfied to being satisfied by the end of the four weeks of cupping therapy. After completing all the interventions, the client has reported they have less pain when working, sleeping, and weightlifting at the gym.

Arm and Shoulder

Participant 3 is a full-time third-year Law student at WNE, who was experiencing pain, impacting their ability to fully engage in daily occupations. They reported that they had been experiencing “aching” and “throbbing” pain within the shoulder region for more than a year. Prior to law school, they swam collegiately, which required strenuous overhead motion of both their arms. Currently, they spend most of their time studying for the BAR exam, which increases their stress level and pain. Common occupations that tend to exacerbate their pain include sitting in class, driving, and sleeping.

Throughout the study, it was continuously mentioned that there was significant pain relief in the muscles surrounding their shoulder. Measured by the Wong-Baker Pain Scale, their pain level tended to decrease by approximately three numbers each session. Along with the decrease in pain, they reported that their muscles “felt a lot looser” after the cups were taken off. On average, pain relief typically lasted 24-36 hours, which allowed less discomfort while sitting and studying for the BAR exam. After a comparison of the Quick DASH assessment administered before and after cupping sessions, results showed that they felt that pain did not impact sleep as often as it did before receiving cupping therapy. When comparing the QOL-BREF Scale, results showed that they were able to engage in activities of daily living (ADLs) better than before receiving the modality. Overall, this participant noted significant benefits after receiving cupping, which allowed them to become more engaged and comfortable in a study routine.

Discussion

Overall, we found that participants on average felt immediate relief after 87% of sessions, including 87% relief in the arm/shoulder, 90% relief in the neck, 81.7% of relief in the upper

back, and 87% of relief in the lower back (see Figure 1). This leads to the conclusion that using cupping therapy as a preparatory method for occupational therapy (OT) intervention, it can lead to better outcomes than OT interventions alone. Cupping therapy has the potential to relieve pain and muscle tension, increase ROM, and enhance the client's participation in daily occupations. The incorporation of cupping therapy within the field of OT has the potential to empower clients, increase independence in daily activities, and provide a simple solution to the issue of pain management.

In order to maintain the safety of the client, OT practitioners must be competent in all preparatory methods and this is no exception. Further education and research should be utilized prior to cupping. However, the study has shown that cupping therapy is a viable way to decrease our patient's pain prior to occupational interventions.

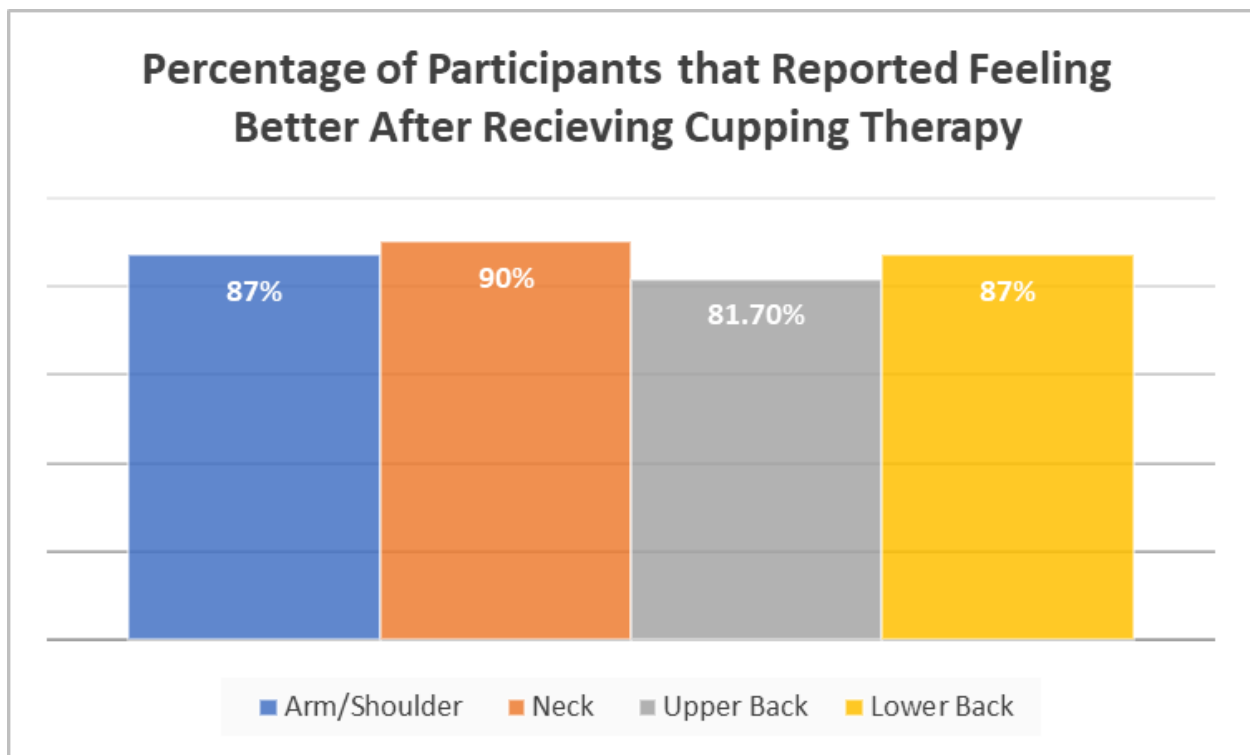


Figure 1.

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Your request (158660) has been updated. To add additional comments, reply to this email.

Lisa Gwaltney (AOTA Customer Service)

Jul 12, 2023, 10:33 AM EDT

Hi Kaeli,

Thank you for your submission. I will review your article as soon as possible, and I will be back in touch then. It may take several weeks, so I thank you for your patience in advance.

Best,

Lisa

Lisa Gwaltney

Editor, *OT Practice*

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Appendix I: IRB Renewal Approval Form



Subgroup of the IRB & Human Subjects
Committee FWA00010736 Renewal Approval
Form[&]

Responsible Director: _____Dr. Minna Levine

Title of Project: *_Effects of myofascial decompression on reducing pain and muscle tension and improving daily functional performance.*

College Proposal Number: ____COP-IRB#129_____

X This research proposal is exempt under Federal Regulation ____45 CFR 46.104 (3)_____. This is an approval of renewal of a previously approved study. It is deemed acceptable according to the Belmont Principles and the American Psychological Association's Ethical Guidelines for the Use of Human Participants for a period of one year.*

_____ This research proposal has undergone an expedited review under Federal Regulation _____. It is deemed acceptable according to the Belmont Principles and the American Psychological Association's Ethical Guidelines for the Use of Human Participants for a period of one year.*

_____ This research does not qualify for exemption or expedited review and will need to be reviewed by the entire board.

Signature____ *Minna Levine* Date 3/24/2023

Renewal requests due before 3/24/2024

[&] Note: Authority to approve exempt or expedited research originating within the College of

Pharmacy.

* Note: It is your responsibility to notify the IRB of any adverse events that occur during your research. You must also request an additional review before you introduce changes to the proposed protocol. Maintain a copy of your original application, any requested changes, and this signed approval form. You will need to submit these if you apply for a renewal.