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## ASSESSING THE NEED FOR MANUAL THERAPY IN THE PELAGONIA REGION: A REGIONAL HEALTHCARE STUDY

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### ABSTRACT

*Introduction: Manual therapy, including massage is widely used to treat musculoskeletal disorders, reducing pain and improving mobility. In the Pelagonia region of North Macedonia, characterized by physically demanding occupations in agriculture and industry, there is a critical need for manual therapy. Despite this, access to these services remains limited due to logistical, financial, and infrastructural challenges. Methodology: A quantitative cross-sectional study was conducted with 30 participants, aged 20-45, who were selected based on their likelihood of benefiting from manual therapy due to their physically demanding jobs. Data were collected through a structured questionnaire assessing demographics, previous massage experience, reasons for seeking massage, and satisfaction with treatment. Results: 93.1% had previously received massage therapy, with 46.67% seeking it for pain relief and 33.33% for relaxation. A balanced gender distribution was observed, with 53.33% male and 46.67% female. The majority of participants expressed satisfaction with the therapy, with a median satisfaction score indicating generally positive feedback. Discussion: The findings highlight the widespread need for manual therapy in the Pelagonia region, particularly for persons in physically demanding occupations. While participants reported high satisfaction, barriers such as limited access to services and lack of public awareness persist, obstructing the effective delivery of therapy. Conclusion: Manual therapy is essential for managing musculoskeletal disorders in the Pelagonia region. Efforts to improve access, raise public awareness, and overcome logistical challenges are necessary to improve health outcomes for the local population. This study focuses on the importance of integrating manual therapy into regional healthcare services.*

**Keywords:** Manual therapy, Pelagonia region.

### INTRODUCTION

Manual therapy, which includes a spectrum of hands-on techniques such as joint mobilization, manipulation and massage has been a basis in the field of physical rehabilitation and holistic health care (Kerry et al., 2024). Massage therapy in particular plays a significant role in reducing muscle tension, reducing pain, improving circulation and promoting relaxation

and general well-being (Crawford et al., 2016). Both manual and massage therapies have demonstrated effectiveness in treating a plenty of musculoskeletal disorders resulting in improving mobility and increasing the quality of life for persons across different populations (Bervoets et al., 2015). As global health care trends shift towards non-invasive and patient-focused approaches, the demand for these therapeutic modalities continues to rise. In this context, the Pelagonia region shows as a critical area for assessing the need and potential impact of manual and massage therapy services (Page, 2021).

Pelagonia, the largest agricultural and industrial hub in North Macedonia is characterized by its different demographic composition and unique occupational landscape. A substantial portion of the population is occupied in physically demanding jobs within agriculture, manufacturing and heavy industries (Interreg IPA Cross-border Cooperation Program, 2020). These occupations often involve repetitive motions, heavy lifting, prolonged standing, and other strenuous activities that contribute to a high incidence of work-related musculoskeletal injuries and chronic pain conditions (Soares et al., 2020). Massage therapy, as an integral component of manual therapy offers specific benefits for these persons by focusing on muscle fatigue, reducing stress, preventing injuries and facilitating quicker recovery from physical exertion (Dakic et al., 2023).

Despite the evident need, access to manual and massage therapy services in Pelagonia remains limited. The region faces several challenges common to rural and semi-urban areas, including insufficient health care infrastructure, a shortage of specialized physiotherapists and economic barriers that obstruct the usage of available services. Many residents in rural communities must travel considerable distances to reach health care facilities offering manual and massage therapies, often leading to postponing or complete avoidance of necessary treatment because of logistical and financial problems (Shakya et al., 2024). Aside of this, there is a lack of public awareness regarding the benefits of these therapies, with many people either unfamiliar with or skeptical about the efficacy of massage (Stewart-Richardson et al., 2024). Chronic pain and untreated musculoskeletal conditions can result in decreased productivity, increased absenteeism from work, and a higher burden on the health care system due to complications and prolonged disability. In addition to this, many occupational workers are in need of massage therapy monthly or bi-monthly (Arsovski, 2024).

## **METHODOLOGY**

### ***Study Design***

This research used a quantitative cross-sectional design to assess the need for manual therapy, specifically focusing on massage therapy, within the Pelagonia region. The study aims to identify the prevalence of musculoskeletal conditions, access to therapy services, and participant satisfaction with massage therapy in addressing their needs. The survey was conducted with individuals from different occupational sectors, primarily from agriculture and industry, where physical labor is predominant.

### ***Participants***

A total of 30 participants were recruited for this study. The participants were selected using a combination of convenience and purposive sampling, focusing on individuals who are more likely to benefit from manual therapy due to the nature of their jobs or reported physical issues. Participants were aged between 20 to 45 years, with an average age of 32.35 years. Of these, 53.33% were male, and 46.67% were female, ensuring a balanced gender representation (SD = 4.71%).

### ***Data Collection Tools***

Data were collected through a structured questionnaire that included both closed and open-ended questions. The questionnaire was designed to gather information on several key aspects:

- **Demographics:** Age, gender, occupation, and general health information.
- **Previous Experience with Massage:** Participants were asked whether they had previously received a massage, with response options being "yes" or "no."
- **Reasons for Massage:** The reasons for receiving massage therapy were categorized into three groups: "problem-solving" (e.g., pain relief), "relaxation," and "both problem-solving and relaxation."
- **Strength of Pressure:** Participants were asked to rate their preferred massage pressure as "light," "medium," or "strong."
- **Satisfaction Score:** A derived satisfaction score was calculated based on three factors: previous massage experience, reasons for the massage, and the alignment of the strength of pressure with their expectations.

### **Data Collection Procedure**

The survey was administered in person. Participants were approached at private massage studio and work-related settings in the Pelagonia region. Data collection took place from May 2024 to August 2024.

### **Statistical Analysis**

The study involved 30 participants, with 53.33% male and 46.67% female. The mean percentage of gender distribution was 50% with a standard deviation (SD) of 4.71%, indicating a balanced gender composition. The mean age of participants was 32.35 years, with a standard deviation of 12.87 years. The majority of participants were in the 25-35 years range, accounting for 46.67% of the sample. 93.1% of participants had previously received a massage, while 6.9% had not. The mean for previous experience was 0.93, with an SD of 0.26, showing that most participants had prior exposure to massage therapy. The used satisfaction score, based on previous massage experience, reasons for massage, and alignment with preferred pressure strength, showed the following trends: The median satisfaction score was relatively high, indicating overall positive satisfaction. The interquartile range (IQR) was moderate, suggesting that satisfaction was mostly clustered around middle-to-high levels, with very few participants expressing low satisfaction.

## **RESULTS**

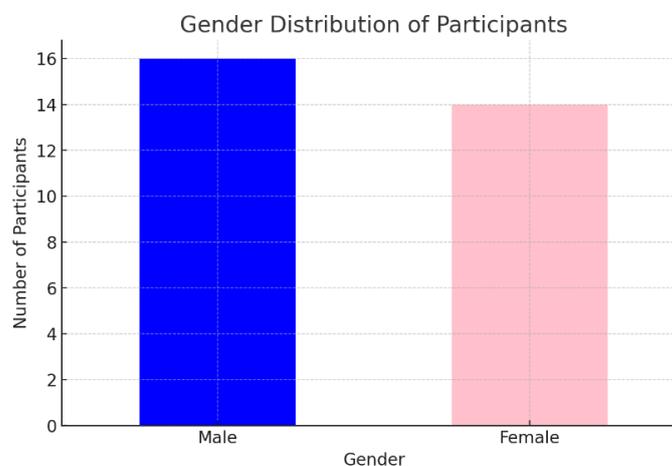
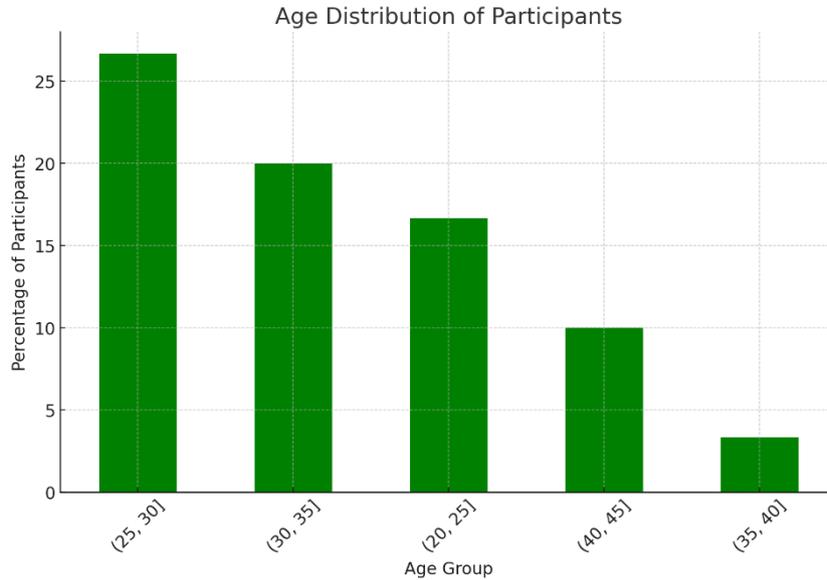


Figure 1: Gender distribution of participants.

Figure 1 represents the gender distribution of the 30 participants in the study. 53.33% of the participants are male and 46.67% of the participants are female. The mean percentage for gender distribution is 50%, and the standard deviation (SD) is 4.71%. This shows a relatively balanced gender distribution, with a small deviation from an equal split between males and females.

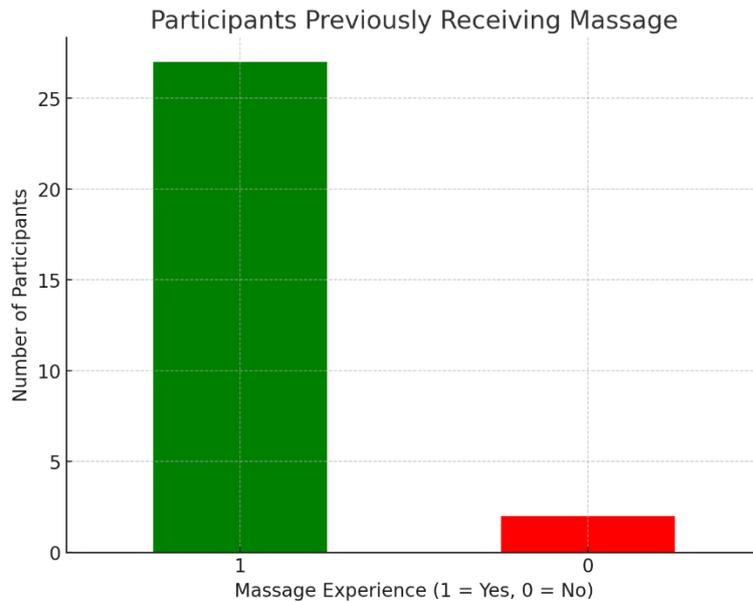


*Figure 2: Age group of participants.*

Figure 2 shows the age distribution of the 30 participants, grouped into different age ranges. Mean age of participants: 32.35 years, Standard deviation (SD): 12.87 years. The percentage of participants in each age group is as follows:

- 26.67% are between 25-30 years.
- 20.00% are between 30-35 years.
- 16.67% are between 20-25 years.
- 10.00% are between 40-45 years.
- 3.33% are between 35-40 years.

This distribution reflects that the majority of participants fall within the younger age group, specifically between 25 and 35 years old.



*Figure 3: Participants previously receiving massage.*

The bar chart above shows the distribution of participants who have previously received a massage: 93.1% of the participants reported having received a massage before, 6.9% have not received a massage previously. The mean for this data is 0.93, and the standard deviation (SD) is 0.26, indicating that the vast majority of participants have had prior massage therapy experience.

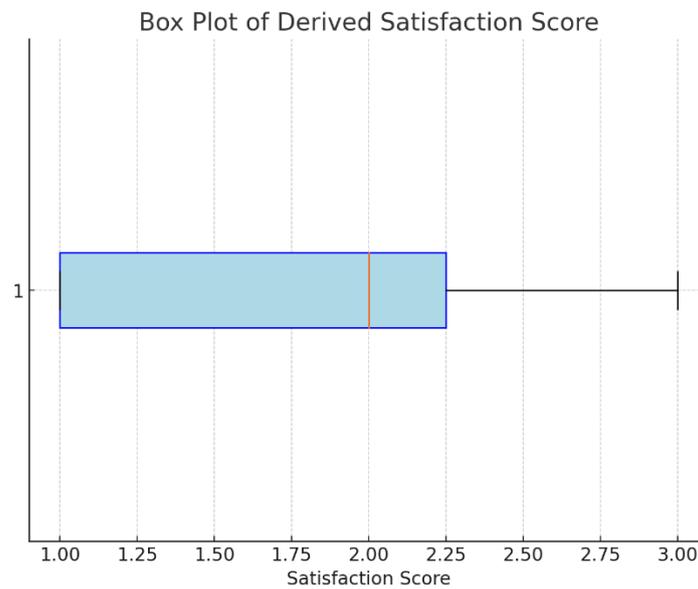
*Table 1: Reason for massage.*

<b>Reason for Massage</b>	<b>Percentage of Participants (%)</b>
Problem	46.67%
Relaxation	33.33%
Problem and Relaxation	16.67%
Not Specified	3.33%

Table 1 presents the reasons why participants seek massage therapy, along with the corresponding percentages of those reasons. The key findings are 46.67% of participants attend massages primarily to address a problem, such as pain, discomfort, or other physical issues, 33.33% of participants seek massage therapy for relaxation, indicating a preference for the stress-relieving and calming benefits of the treatment, 16.67% report using massage for both problem-solving and relaxation, suggesting that some participants view massage as both a therapeutic and relaxing activity and 3.33% did not provide a specific reason for receiving massages. This data suggests that while the majority of participants use massage to address physical problems, a significant proportion also value its relaxation benefits.

*Table 2: Pressure strength for massage.*

<b>Pressure Strength</b>	<b>Percentage of Participants (%)</b>
Light	40.00%
Medium	40.00%
Strong	13.33%
Not Specified	6.67%



*Figure 4: Satisfaction score.*

Figure 4 represents the satisfaction scores of participants based on three factors: previous experience with massages, reasons for receiving massages (whether for relaxation, problem-solving, or both), and the pressure strength used during the massage. The median satisfaction score is relatively high, indicating that most participants experienced a favorable level of satisfaction. There is a moderate interquartile range (IQR), suggesting that the majority of participants' satisfaction levels were clustered around the middle-to-high range, with a smaller degree of variability in satisfaction. There are no extreme outliers, meaning that very few participants, if any, reported extremely low satisfaction. The general range of scores shows that while the satisfaction is generally positive, a few participants experienced lower satisfaction, likely due to their preferences not being met (e.g., preference for stronger pressure or specific reasons for attending). This figure reveals that the participants, on average, felt satisfied with their massage experience, though the degree of satisfaction varied slightly depending on individual factors such as prior experience and whether the massage met their intended goals (relaxation or problem-solving).

## **DISCUSSION**

One study by Short, Tuttle, and Youngman (2024) focus on the importance of manual therapy in sports physical therapy, especially within a symptom-modification framework that combines both active and passive therapies. The debate on the effectiveness of manual therapy often centers on the viewpoints regarding its utility versus exercise-only strategies. However, this study draw information for a balanced approach, focusing on the contextual application of manual therapy to manage pain and injury, particularly in athletes. The combination of manual therapy with active interventions is presented as a necessary strategy to manage the complex physical demands of sporting careers. Compared to our results, where manual therapy was evaluated in a non-athletic population engaged in physically demanding jobs, the results similarly focus on the benefits of manual therapy. In Pelagonia, the need for manual therapy, including massage, is also driven by chronic musculoskeletal conditions, repetitive motions, and the physically taxing nature of occupations. Both studies acknowledge the role of manual therapy in addressing pain, improving mobility, and improving general well-being, with different target populations. While the Pelagonia study focuses on improving access to therapy in a region with limited resources, the sports therapy study focusses on its role in high-performance athletic contexts.

Another article by Farrell and Jensen (1992) critically assesses the role of manual therapy in the physical therapy profession, noting that while its popularity continues to grow, the evidence base supporting its concepts and techniques remains limited. The authors call for more research and critical thinking in both the practice and education of manual therapy. They focus on the need for a clearer scientific rationale and better evaluative frameworks within clinical decision-making processes. In comparison, our study also focusses on a gap in public awareness and access to manual therapy but focuses more on its practical benefits in reducing musculoskeletal pain and improving well-being for physically demanding jobs.

One study on Medi-Taping combined with manual therapy for chronic lower back pain demonstrated that both Medi-Taping and standard physiotherapy approaches yielded medium to large improvements in pain and disability. However, no significant differences were found between the two groups for primary pain-related outcomes. Health-related quality of life was significantly higher for the Medi-Taping group, suggesting it may provide added benefits in this aspect. Comparatively, our study focused on the positive effects of manual therapy, particularly in reducing musculoskeletal pain and improving quality of life. While the Medi-Taping study focused on chronic lower back pain with kinesio taping as an adjunct, our study evaluated broader musculoskeletal conditions in a physically demanding work environment, focusing on manual therapy as a key intervention (Schmidt et al., 2020).

## **CONCLUSION**

In conclusion, this study focuses on the important need for manual therapy, particularly massage, in the Pelagonia region due to the prevalence of musculoskeletal conditions resulting from physically demanding occupations in agriculture and industry. The findings demonstrate that manual therapy is highly effective in addressing chronic pain, improving mobility, and improving the general well-being of persons in this region. However, access to these therapies remains limited due to infrastructure challenges, a shortage of specialized professionals, and economic barriers.

Improving awareness and access to manual therapy services can contribute to better health outcomes and productivity for the local population. This study reinforces the importance of manual therapy as an integral part of non-invasive healthcare approaches, which should be more widely available to meet the needs of individuals in underserved areas like Pelagonia.

## REFERENCES

1. Kerry, R., Young, K. J., Evans, D. W., Lee, E., Georgopoulos, V., Meakins, A., McCarthy, C., Cook, C., Ridehalgh, C., Vogel, S., Banton, A., Bergström, C., Mazzieri, A. M., Mourad, F., & Hutting, N. (2024). A modern way to teach and practice manual therapy. *Chiropractic & Manual Therapies*, 32(1), 17. <https://doi.org/10.1186/s12998-024-00537-0>
2. Crawford, C., Boyd, C., Paat, C. F., Price, A., Xenakis, L., Yang, E., Zhang, W., & Evidence for Massage Therapy (EMT) Working Group. (2016). The impact of massage therapy on function in pain populations—A systematic review and meta-analysis of randomized controlled trials: Part I, patients experiencing pain in the general population. *Pain Medicine*, 17(7), 1353–1375. <https://doi.org/10.1093/pm/pnw099>
3. Bervoets, D. C., Luijsterburg, P. A., Alessie, J. J., Buijs, M. J., & Verhagen, A. P. (2015). Massage therapy has short-term benefits for people with common musculoskeletal disorders compared to no treatment: A systematic review. *Journal of Physiotherapy*, 61(3), 106–116. <https://doi.org/10.1016/j.jphys.2015.05.018>
4. Page, P. (2021). Making the case for modalities: The need for critical thinking in practice. *International Journal of Sports Physical Therapy*, 16(5), 28326. <https://doi.org/10.26603/001c.28326>
5. Interreg IPA Cross-border Cooperation Programme. (2020). Study for landslides. Retrieved from <https://www.ipa-cbc-programme.eu/gallery/Files/EN-Study-for-landslides.pdf>
6. Soares, C. O., Pereira, B. F., Pereira Gomes, M. V., Marcondes, L. P., de Campos Gomes, F., & de Melo-Neto, J. S. (2020). Preventive factors against work-related musculoskeletal disorders: Narrative review. *Revista Brasileira de Medicina do Trabalho*, 17(3), 415–430. <https://doi.org/10.5327/Z1679443520190360>
7. Dakić, M., Toskić, L., Ilić, V., Đurić, S., Dopsaj, M., & Šimenko, J. (2023). The effects of massage therapy on sport and exercise performance: A systematic review. *Sports*, 11(6), 110. <https://doi.org/10.3390/sports11060110>
8. Shakya, N. R., Emén, A., Webb, G., Myezwa, H., Karmacharya, B. M., & Stensdotter, A. K. (2024). Barriers and facilitators for strengthening physiotherapy services in Nepal: Perspectives from physiotherapists and health providers. *BMC Health Services Research*, 24(1), 876. <https://doi.org/10.1186/s12913-024-11272-w>
9. Stewart-Richardson, J. L., Hopf, S. C., Crockett, J., & Southwell, P. (2024). What is effective in massage therapy? Well, "It depends...": A qualitative study of experienced orthopaedic massage therapists. *International Journal of Therapeutic Massage and Bodywork*, 17(1), 4–18. <https://doi.org/10.3822/ijtmb.v17i1.935>
10. Arsovski, D. (2024). Effectiveness of medical massage in reducing neck pain among multiple occupational groups: A longitudinal study. *International Journal of Therapeutic Massage and Bodywork*, 17(3), 23–30. <https://doi.org/10.3822/ijtmb.v17i3.993>
11. Short, S., Tuttle, M., & Youngman, D. (2023). A clinically-reasoned approach to manual therapy in sports physical therapy. *International Journal of Sports Physical Therapy*, 18(1), 262–271. <https://doi.org/10.26603/001c.67936>
12. Farrell, J. P., & Jensen, G. M. (1992). Manual therapy: A critical assessment of role in the profession of physical therapy. *Physical Therapy*, 72(12), 843–852. <https://doi.org/10.1093/ptj/72.12.843>
13. Schmidt, S., Keim, N., Schultz, C., Sielmann, D., Huber, R., Walach, H., & Schmidt, P. (2020). Assessment of a combined manual therapy and taping method for the treatment of chronic lower back pain: A randomized controlled trial. *medRxiv*. <https://doi.org/10.1101/2020.03.19.20024950>