

The Effectiveness of Osteopathic Manipulative and Soft Tissue Techniques in Reducing Low  
Back Pain as Evidenced by Scores on Modified Oswestry Low Back Questionnaire

Dr. Adeyinka Adepoju

NUMSS

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## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

### Abstract

Osteopathy is a branch of medicine that has evolved much over the years, and it involves the bones and soft tissues. The practice of osteopathy has been practiced by most physicians/practitioners worldwide with increasing knowledge by interactions with the patients. This paper seeks to discuss the different techniques involved in osteopathy. This paper will mainly focus on osteopathic manipulation skills of soft tissues and replacement. The focus will focus mainly on managing low back pain, where scores measure its effectiveness. The paper will majorly be discussing the prevalence of low back pain in adults with a prevalence of 70-80% are managed. With the revolution in the osteopathic techniques to manage conditions of low back pain, this paper will seek to discuss the various techniques used in the management of low back pain in adults. Low back pain is caused by different conditions and this paper will seek to discuss the causes and their management. The paper will also entail data collection where the research paper involves questionnaires distributed to different physicians managing patients with back pain and feedback from the patients. This paper will also discuss the advantages and disadvantages of the different techniques used in osteopathic manipulation. It will include references from renowned authors who have extensively researched osteopathic manipulation. There will be evidence of testimonials from different physicians and the patients who patients managed in every technique. This paper will divide its content into different segments. The first segment is the introduction, which will cover what osteopathic manipulation is and how it has evolved health care delivery. The next part will be the body which will encompass different areas such as data collection, the method used in the data collection, and its significance to the study. The interpretation of the data will then follow this. After the interpretation, there will be a brief

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

discussion on the different findings. This will then be followed by a conclusion summarizing the whole paper.

Keywords: Osteopathic Manipulation, Osteopathy, Soft tissue, Back Pain Management

### Effectiveness of Osteopathic Manipulation and Soft Tissue Treatment Techniques in Reducing Low Back Pain as Evidenced by Scores on Modified Oswestry Low Back Questionnaire

#### **Introduction**

To begin with, osteopathy is a branch in medicine that deals with the different techniques to manipulate the main physical body parts, soft tissues, and bones. This hence gives rise to a new term called osteopathic manipulation. Osteopathic manipulation can be defined as the techniques in which different physicians diagnose, treat, and prevent disease or injury on body tissues or bones. Osteopathic manipulation is a practice done by very skilled physicians with great mastery in osteopathy and the new techniques used in osteopathy. Physicians who are mainly trained in osteopathy manipulation are extensively trained to work with their hands in the examination and treatment processes of different patients. Physicians trained in osteopathic manipulation are mainly trained to do palpations with their hands which help prevent musculoskeletal injury or diseases associated with inflammation. The thesis statement is “The effectiveness of Osteopathic manipulation and soft tissue treatment on low back pain as evidenced by a significant reduction in scores on the modified Oswestry low back questionnaires (Cerritelli et al. 2020)

Low back pain is one of the most prevalent conditions Most adults face a prevalence of about 70-80% across the globe. The research question seeks to understand how osteopathy

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

manipulation techniques have increased improvement and healing in patients with low back pain. Low back pain are one of the most prevalent challenges that people of advanced age face due to the different modalities. Lower back pain have been previously associated with several etiologies and they will be discussed below. Back pain over the years has been a significant concern. It has had some effects such as being costly and sometimes rendering a person disabled and unable to continue their daily life activities.

The practice of osteopathic manipulation had been a game-changer in managing pain owing to ligaments, muscles, nerves, and bones of the lower back. Most of the lower back pain are best managed by osteopathic techniques and in some pharmacological products. Following the use of osteopathic techniques, there has been a paradigmatic shift in how the lower back pain have been eradicated and it owes to the significant shift in the outcome of patients. For the body to be functioning normally, the nerves, ligaments, musculoskeletal system must all be in coordination. Any alteration to the earlier factors may result in disease and injury progression. Low back pain can be the result of degeneration of the lumbar discs, spondylolisthesis, sprains, or strains. The degeneration of the lumbar discs naturally occurs due to stiffening because of use and age. However, the pain can be addressed by stabilizing the spine. Osteopathic manipulative techniques like massage, stretching of stiff joints, and articulation are techniques that can address lower back pain.

It is the role of the osteopathic physician to prevent the occurrence of danger to the patient's health. Apart from treating lower back pain, osteopaths can treat other disorders such as asthma, inflammatory bowel disease, fibromyalgia, menstrual pain, sports injuries, and pregnancy-related problems.

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

Osteopathic manipulation uses different techniques to ensure the improvement of patients' health, and they will be discussed below. One of the strategies that osteopathic physicians do is apply pressure. Applying pressure on a particular part of an organ or body tissues or bones significantly affects the healing of the ailed part. The other method used in osteopathic manipulation is stretching. Stretching is an excellent technique used in the relaxation of muscles as tendons. The other technique is relieving misalignment of joints and ligaments. This involves several techniques that aim to improve a patient's health quality.

### Techniques used in osteopathy

Osteopathic physicians perform their role through several techniques to improve patient outcomes. They are discussed below.

- Effleurage.

In this technique, the physician uses their palms to sweep horizontally on soft tissues. This technique or movement has an advantage in allowing an adequate flow of blood through the capillaries by promoting dilation. According to the site of action, the physician applies pressure according to the resistance. The pressure exerted on the tissues acts as a pump that helps pay all the exudate back into the lymphatic system.

- Petrissage

This is another technique used in osteopathy, and it involves applying more pressure on the tissues as compared to effleurage. Pressure exerted on the tissues is by the help of the fingers. The physicians pulls the tissues back and forth while stretching and squeezing the tissues.

- Percussion

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

This osteopathic technique involves an action that resembles that of chopping. The physician uses the outer edges of their hands with their thumbs pointing upwards. The other percussion technique is cupping. This involves shaping hands to resemble the shape of a cup.

- Cupping

This is a technique that involves using actual cups of different sizes. The cup is placed upside down forming seals where air is then drawn out to result in the formation of a vacuum. The cup is then moved along the skin without losing the vacuum. This method is often used in tight muscles.

- Frictions

This is a deep massage technique. Frictions involve diagonal and across movements to ensure muscle regains. It does not move the skin, hence it is aimed at breaking the collagen restricting muscle movement.

- Acupressure

Acupressure is similar to friction as it involves application of constant pressure on a muscle allowing for it to relieve its tension.

- Elbow technique

This involves the use of elbows to increase the pressure that would have not been achieved by hands or fingers.

- Lymphatic system drainage

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

The lymphatic system lacks a pump unlike the cardiovascular system. Lymphatic drainage is aided by muscle contraction, hence in immobile patients, the lymphatic system is not adequately drained. This technique helps the fluid to be drained adequately.

Studies state that almost 50% of pregnant women experience symptoms associated with lower back pain during pregnancy as it proceeds through the gestational period. From that 50%, around 29% are not interested in having another pregnancy due to the pain felt during the first gestational period. Almost more than 80% of pregnant women who experience lower back pain find it difficult to cope with day-to-day activities, and they can be limited to certain extents. This reduces the quality of life during pregnancy; hence, lower back pain cannot be overlooked; hence, it should be looked upon and help women who are experiencing such symptoms. Pain during pregnancy can arise due to different factors, such as hormonal imbalances, mechanical burden, insufficient circulation, and other social concepts that can affect a pregnant woman psychologically (Hartvigsen et al., 2018).

Patients may experience different symptoms during pregnancy, but lower back pain develops gradually, usually starting with blunt pain. Over time, the patient may feel increased pain in their lower back or engage in physical activities. Pain can, however, be felt in different patients differently. Some pain may originate from the lower back, stretch out to the gluteal muscle down the leg. The other pain may develop from the lower back up to the knee. In pregnant women, deep tissue massage is one of the most prevalent ways of managing chronic or acute lower back pain in osteopathic manipulation. Deep tissue massage is essential in the management of pain and relieving stress while improving wellness. The process of deep tissue massage involves the application of oil, which should be applied as a sufficient amount. The physician's hand should be angled at 45° to prevent painful strokes. Studies have revealed that

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

most pregnant women have had an excellent recovery and increased their quality of life years during pregnancy (Gutke et al., 2018).

The other type of condition concerning lower back pain is known as non-specific low back pain. Unspecific lower back pain encompasses most of the lower back pain. Non-specific low back pain means that the cause of the low back pain cannot be traced to a single etiology. Hence it can be caused by several reasons. Generally, lower back pain can be described as pain originating from the gluteal region and the costal muscles. Low back pain can be associated due to different causes such as the feeling of tension or being stiff as well as soreness. Pregnancy back pain can also fall under this category; hence it is essential to study it because untreated low back pain can lead to disability, as discussed earlier. All of the above conditions owing to low back pain have been treated by osteopathic manipulation. There are criteria in which the group to be studied is picked and how the study is conducted (Buchbinder et al., 2018).

The type of research involved here is controlled randomized research. This involves picking a target group for the study, and this can involve choosing a population above 18 years of age and suffering from lower back pain. The participants are mainly those with non-specific low back pain. There are different techniques used in treating the participants, and their choice is primarily due to the assessment by the osteopathic physicians. This is then followed by control measures involved in the interventions. After control measures, the interventions are compared, and outcomes are measured. This is then followed by data collection and then later by data analysis.

The treatment of lower back pain can involve physical activities and surgery for advanced cases with risks of disability. Before any treatment, one needs to stipulate a treatment goal; hence in osteopathic manipulation, there are several goals to be achieved. One of the goals



## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

is to decrease back pain. Decreased back pain is a significant relief that patients suffering from low back pain would want to feel; hence this is the initial goal of osteopathic manipulation. This would later lead to total healing because healing is progressive. The other goal of treatment is increased function. Most of the patients suffering from low back pain cannot adequately be involved in different activities, primarily physical activities. One of the significant reliefs would be regaining function, but this is a gradual process, and it happens as therapy continues. The other goal of osteopathic manipulation is preventing future back problems. The progress of treatment can be tracked by comparing a patient's score on the Oswestry Low Back Pain Disability Questionnaire. The score for each question can range from 0-5 and an individual's total score would fall into one of five categories. Scores of 0-4 represent no disability, scores of 5-14 represent mild disability, scores of 15-24 represent moderate disability, scores of 25-34 represent severe disability and scores of 35-49 represent fully disabled. As osteopathic treatment progresses, a client can be given the questionnaire and have their scores compared. Utilizing osteopathic manipulation would result in the reduction of an individual's scores on the Oswestry Low Back Pain Disability Questionnaire.

The practice of medicine has shifted to preventive care; hence osteopathic manipulation should focus on preventing loss of function and preventing disability. This can be enhanced by making a good diagnosis and having interventions before any complications.

Osteopathic manipulation can be conducted via different approaches, all aimed at improving patients' quality of life years experiencing low back pain. There are two general classifications of therapy, and these are passive physical therapy and active physical therapy. All of these therapies are used interchangeably to ensure the improved patient outcome. Passive physical therapy involves different approaches such as: applying heat, ice packs as well as

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

stimulation via electric currents. These passive activities play a vital role in ensuring that patients respond better to therapy. They help to ease the pain as well as stimulate the patient's musculoskeletal system. The other type of therapy is physical therapy. This involves interventions such as exercising and stretching. Exercising involves the movement of patients' body parts to relax them.

### Data collection

For this research paper, data collection is essential to gauge the condition of patients experiencing low back pain. In this research paper, the mode of collection of information is basically through questionnaires. Questionnaires were chosen as a data collection method because of their flexibility involving this research. Questionnaires are comprehensive; hence it encompasses different questions that need to be answered for better clarification and grouping of data. The questionnaires are patient-directed as they aim to ask questions which ought to be answered for correct data analysis. The questionnaires will encompass questions answered with choices by marking the boxes beside them. After marking the boxes, the severity of the back pain is made by giving a score based on the answers.

The questionnaires distributed for the study were distributed to people of various ages, conditions and to different regions. The questionnaires were distributed to participants of different ages because low back pain can be associated to people of certain ages and to those with certain conditions. Because low back pain is also experienced by pregnant women, the questionnaires were distributed to both pregnant and aged women. The reason for distributing the questionnaires to different regions is to prevent the data from being biased.

The questionnaire model being used is the Oswestry disability index. The following questions are included in the questionnaires. The first is pain intensity. The intensity of pain is

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

how they feel after taking painkillers. The other question is personal care. The patient answers this question by answering how effectively they look after themselves. The other question is their ability to lift weights. The answer is based on how convenient they are in lifting weights. The other question is walking. The answer is based on the ability of the participants to walk for what distances. The other question is their ability to sit. The answer is based on the time they take while seated. The other question is standing. The answer is based on how much time the participants can spend while standing. The other question is sleeping; the answer is whether the pain ceases when they are asleep. The other question is on social life. The answer is whether social life has changed. The other question is traveling. The answer is based on whether they can travel long distances. Lastly, the question is employment or homemaking. This gauges their ability to perform different duties.

### Results

Score	Disability outcome	Prevalence
0-4	No disability	20
5-14	Mild disability	18
15-24	Moderate disability	16
25-34	Severe disability	4
35-50	Completely disabled	2

### Discussion

From the table above, it is observed that the questionnaires were issued to a total number of 60 people experiencing low back pain. Out of the 60 participants, 20 were not disabled, but the rest had some element of being disabled. This outcome depicts some of the real situations of

## OSTEOPATHIC MANIPULATION AND SOFT TISSUE TREATMENT

the population experiencing low back pain. The data collected and analyzed clearly indicates that the population needs to engage in preventive measures, which will entail paying visits to osteopathic physicians who would be of great help to reduce the occurrence of total disability. This study was conducted on random participants experiencing low back pain, hence this is a good illustration to show how many people are affected and to what extent. From the data above, it depicts that most people are suffering from mild to severe disability associate with low back pain. At this stages, the disease progression can be managed to protect the participants from being immobile. However, there can be some disparities arising from the collection of data. The disparity that might have occurred is the over exaggerating when answering the different type of questions on the questionnaires. On the other side, some of the patients might have underestimated their present health evaluation.

### Conclusion

In conclusion, the importance of having Osteopathic physicians in the health care system is vital to ensure quality life addition through ensuring that all aspects of the health of individuals are upheld. When patients understand the importance of preventive care to protect them from total disability, the health outcome will be more significant. The physicians should make the correct diagnosis and help the patients attain the treatment goals. After a correct diagnosis is made, the physicians should employ various techniques involves in osteopathy to prevent disability. Applying osteopathic techniques to those suffering from low back pain is an effective treatment approach and has been proven by reductions in Oswestry Low Back Pain Disability Questionnaire scores. Various osteopathic techniques can be utilized to address lower back pain and those chosen should be decided upon on an individualistic basis.

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