



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1477627>Available online at: <http://www.iajps.com>

Research Article

**A SELF-STYLED EXPERIMENTAL RESEARCH TO ASSESS  
THE EFFECTIVENESS OF SPINAL MANUAL MANAGEMENT  
OF CLBP (CHRONIC LOW BACK PAIN)**<sup>1</sup>Dr. M Waqas, <sup>2</sup>Dr. Khalid Hussain, <sup>3</sup>Dr. Muhammad Bilal<sup>1</sup>MO, BHU Jhok Jaskani, Karor, Layyah<sup>2</sup>Medical Officer, RHC, Meeran Mallah Jalal Pur Peer Wala, Multan<sup>3</sup>MO RHC Meeran Mallah Tehsil Jalalpur Pirwala Dist Multan**Abstract:**

**Objective:** Multidisciplinary group method is able to manage chronic low back pain (CLBP) specifically through rehabilitation and physiotherapy. Assessment in the current study was based on the effectiveness of spinal manual therapy (Maitland grade I and II mobilization) for CLBP management.

**Methodology:** The design this study is a self-styled experimental held at Allied Hospital, Faisalabad (February to October 2017). In this research study, Maitland grade I and II spinal mobilizations provided for 20 minutes each to every subjected patient. Consecutively for two weeks, an alike frequency of treatment applied and comprised on 03 sessions in a week. Before and after treatment, Numeric pain rating scale (NPRS) was used for the evaluation of levels of pain severity. Records were typically scattered and hence, by using SPSS, variation in pain strength was measured by "t" test.

**Results:** The premeditated normal prior to treatment score of pain on Numeric pain rating scale was 3.90 (standard deviation, 0.3038) and 1.65 was after treatment with normal deviancy of 0.8638. The designed t-value was 12.08 (p-value = 0.000).

**Conclusion:** As a result of the current study, it is evidently exhibited that the Maitland G1 and Maitland G2 spinal mobilization is exploitable as the best treatment option for the chronic low back pain (CLBP).

**Keywords:** Chronic Low Back Pain, Spinal Mobilization and Numeric Pain Rating Scale.

**Corresponding author:****Dr. M Waqas,**

MO, BHU Jhok Jaskani, Karor,

Layyah

QR code



Please cite this article in press M Waqas et al., A Self-Styled Experimental Research to Assess the Effectiveness of Spinal Manual Management of CLBP (Chronic Low Back Pain), Indo Am. J. P. Sci, 2018; 05(11).

**INTRODUCTION:**

Low back aching is generally a musculoskeletal article. Consequently, the core reason is pressure and the stress on the muscles, ligaments and bones of the spinal stake [1]. The pain being sensed in the lower backbone region is known as low back pain, and rendering to the contributing cause it may be soft or simple [2, 3]. The chronic low back pain is the one which generally continues for about more than 7-12 weeks. Away from the projected curative length of the period, the elemental extreme roots may be going on unobserved and this pain may be last extendedly. the reiterating back pain, as per the proceedings of a few submissions, is label as chronic pain as a result of the same the patient does bare the pain for a longer duration over and over again [4].

The CLBP (chronic low back pain) extremely affects upon the general routine activity of prevalent inhabitants. Within the complete one year, about 7% of young people check in for this complaint [5]. The low back pain is exceedingly predominant disorder amongst several situations [4, 6], and keeping in view the administration of the pains in the entire world, the chronic low back pain encompasses an extraordinary aggregate e.g. dominance in the USA only is ranging from 8 to 56% [7].

Low back pain is a variously dispensed disease with the involvement of miscellaneous etiologies. In to the numerous risk factors, involvement noted of multiple Physical elements. Heavy physical stresses, postural strains, frequent lifting, and vibration are the possible probability causes which can results in sciatica, low back pain and disc degeneration are also known as risk factors. Moreover, in addition to these, social demographic features, routine practices, psychosocial factors and other work posture abnormalities can cause low back pain [8, 11].

In order to assuage the pain in dysfunctional spinal column and/or to get the movement better, in the year 2012, a study conducted by Bialosky et al, in which he used spinal manipulative therapy (SMT) techniques. The techniques of SMT helps the physiotherapist to get proficient for self-clinical verdict making deprived of the recommendation of an orthopaedic and osteopathic physician [12].

At the present time, there is a narrow consent on effectiveness and part of backbone management in a chronic backache. Huffman and Chou have managed to conduct systematic analyses in 2007, which result in the progressive role of spinal manual therapy. Whereas in a later time in 2008 by Bronfort et al during his Cochrane review found that spinal physical

rehabilitation is having equal effectiveness as like the other former intermediations [13, 14].

The very important role being performed through the outcomes for supporting the manual backbone therapy, which might be as a consequence of treatment dosage and extra period of time which is not mentioned in above-stated meta-analysis and systematic analyses [14]. Foregoing in view, working out the optimal dosage requirement for the treatment is very significant. Shekelle et al in 1991 have performed a study on spinal manual therapy's timeframe, the rate of recurrence and dosage and revealed that this research was on the bases of expertise and opinion of clinicians [15].

In our country, variable results of personalized manual therapy were one of the other complications. Due to that reason, the projection of comprehensively underpropped and a well-verbalized consensus therapy for the research is required. Finding out the efficiency of chronic low back pain through Maitland grade I and II backbone mobilization is the main reasons for the conduct of this research so as the patient's pain can be reduced and their quality of life can be improved.

**MATERIAL AND METHODS:**

The design this study is a self-styled experimental held at Allied Hospital, Faisalabad (February to October 2017). Lottery method (simple random sampling technique) was utilized to select the research sample. Well-versed Written approval was acquired from all the under-research patients. For 20 minutes, all the patients (understudy) have received Maitland grade I and II spinal mobilizations, which keep on the same for all over the study period. For two weeks, the treatment was continuing at a rate of three sessions in one week. For assessing the severity levels of pain, NPRS used afore and after treatment. Researcher maintained the confidentiality of the patients' data. And recorded the outcomes analysis on SPSS. In the form of standard deviation and mean, presentation of the quantitative variables also had a mention; whereas, qualitative variables presented in the form percentages. The data distribution was normal. Before and after treatment on NPRS, measurement of change in pain intensity was did by "t" test using SPSS.

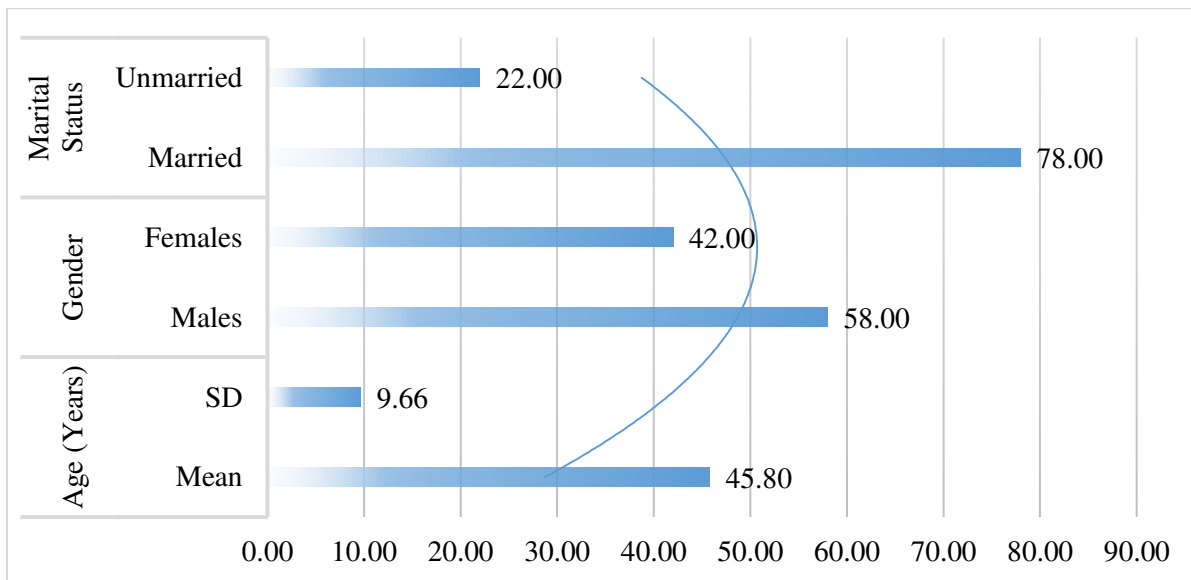
**RESULTS:**

Prior to treatment premeditated standard value in situation of NPRS was 3.90 (SD = 0.3038), however, after the conduct of 03 sessions, the mean NPRS was changed to 1.65 (SD = 0.8638) and subsequent to the conclusion of therapy by accomplishment of six sessions, on NPRS, the average value became to 1.22 (SD = 0.4184). When the standard was equated at the

initiation and cessation of treatment (p value=0.000) the premeditated 't' value was 12.08.

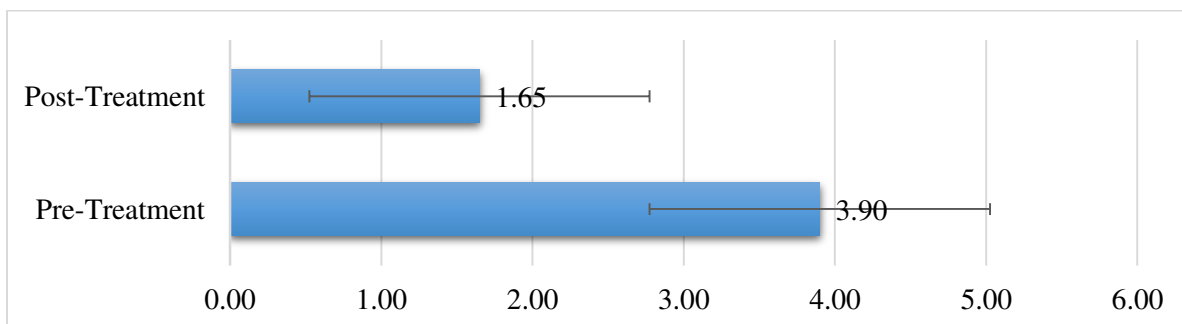
**Table – I:** Demographic Features

| Variables      |           | Statistical Value |
|----------------|-----------|-------------------|
| Age (Years)    | Mean      | 45.80             |
|                | SD        | 9.66              |
| Gender         | Males     | 58.00             |
|                | Females   | 42.00             |
| Marital Status | Married   | 78.00             |
|                | Unmarried | 22.00             |



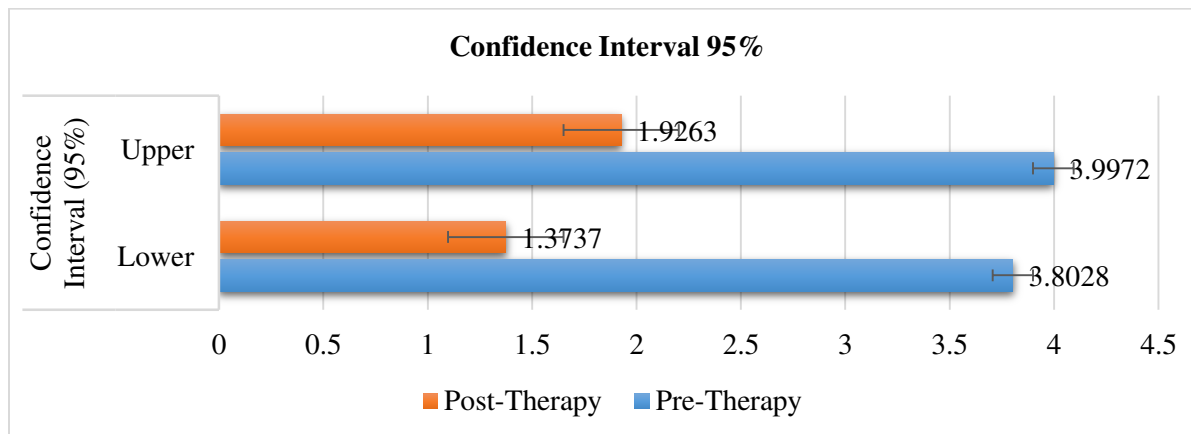
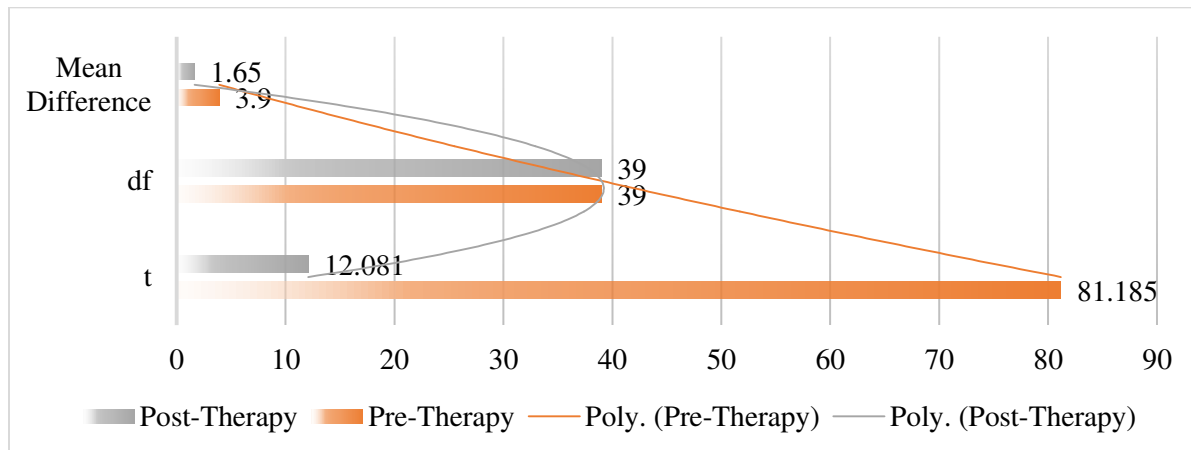
**Table – II:** Pre and Post Treatment Analysis

| Treatment Duration | Mean NPRS Value |
|--------------------|-----------------|
| Pre-Treatment      | 3.90            |
| Post-Treatment     | 1.65            |



**Table – III:** Pre-therapy and post-therapy comparison of means (t-test) in pain scores

| Therapy      | t      | df | Mean Difference | Confidence Interval (95%) |        |
|--------------|--------|----|-----------------|---------------------------|--------|
|              |        |    |                 | Lower                     | Upper  |
| Pre-Therapy  | 81.185 | 39 | 3.9             | 3.8028                    | 3.9972 |
| Post-Therapy | 12.081 | 39 | 1.65            | 1.3737                    | 1.9263 |

**DISCUSSIONS:**

At the conclusion of this research it has been revealing that before and after spinal manual therapy, there was a reduction in pain and uneasiness with the outcome of an average score on NPRS before treatment 3.90 (SD = 0.3038), and on completion, the score was 1.65 (SD = 0.8638). With the application of spinal manual therapy (SMT), every under-study patient received a considerable respite in distress. It was as per the research of JD Childs et al which was complete in 2005, on the boost of reactions of the numeric pain

score scale in patients having chronic low back pain [16].

Outcomes of the current research were the same as of the earlier researches in which the authors emphasized the efficacy of SMT in CLBP. Additionally, this research study also supplements to the verdicts for the usefulness of Maitland grade I and II spinal mobilizations for dropping chronic low back pain. The systemic assessment of random clinical trials conducted by BW Koes et al, comprised of thirty-six

randomized experimental trials depicting cross-referring of SMT with the other therapies and openly defined the advantages of Maitland mobilization therapy. Positive effects for mobilization therapy have presented in the majority of the research studies and all of these having a strong consent to the outcome of our research study [17, 18].

Forthcoming studies are necessarily required with the use of a higher number of sample size, the lengthier time frame for the continuation of follow up and patients of dissimilar ages or else with an explicit profession with the usage of diverse manual therapy processes.

### CONCLUSION:

At the end of the present research study, it has determined that Maitland G1 and G2 spinal mobilization was an efficient choice for the treatment of CLBP.

### REFERENCES:

- Bronfort G, Haas M, Evans R, Kawchuk G, Dagenais S. Evidence-informed management of chronic low back pain with spinal manipulation and mobilization. *The Spine*. 2008; 8(1):213-25. <https://doi.org/10.1016/j.spinee.2007.10.023>
- Chou R, Huffman LH. Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an American Pain Society/American College of Physicians clinical practice guideline. *Ann Intern Med*. 2007;147(7):492-504  
<https://doi.org/10.7326/0003-4819-147-7-200710020-00007>  
<https://doi.org/10.7326/0003-4819-147-7-200710020-00008>  
<https://doi.org/10.7326/0003-4819-147-7-200710020-00006>
- Shekelle P, Adams A, Chassin M, Hurwitz E, Park R, Phillips R, et al. The appropriateness of spinal manipulation for low-back pain: indications and ratings by a multidisciplinary expert panel. *Rand*. 1991; 13(5):1052-56.
- Childs JD, Piva SR, Fritz JM. Responsiveness of the numeric pain rating scale in patients with low back pain. *Spine*. 2005; 30(11):1331-4. <https://doi.org/10.1097/01.rs.0000164099.92112.29>
- Koes BW, Assen delft WJ, Van der Heijden GJ, Bouter LM. Spinal manipulation for low back pain: an updated systematic review of randomized clinical trials. *Spine*. 1996; 21(24):2860-71. <https://doi.org/10.1097/00007632-199612150-00013>
- Chiradejnant A, Maher CG, Latimer J, Stepkovitch N. Efficacy of “therapist-selected” versus “randomly selected” mobilization techniques for the treatment of low back pain: a randomized controlled trial. *Aust J Physiother*. 2003; 49(4):233-41. [https://doi.org/10.1016/S0004-9514\(14\)60139-2](https://doi.org/10.1016/S0004-9514(14)60139-2)
- Leigh JP, Markowitz SB, Fahs M, Shin C, Landrigan PJ. Occupational injury and illness in the United States: estimates of costs, morbidity, and mortality. *Arch Intern Med*. 1997;157(14):1557-68. <https://doi.org/10.1001/archinte.157.14.1557>  
<https://doi.org/10.1001/archinte.1997.00440350063006>
- Manchikanti L. Epidemiology of low back pain. *Pain Physician*. 2000; 3(2):167-92.
- Waddell G. Low back pain: a twentieth-century health care enigma. *Spine*. 1996; 21(24):2820-5. <https://doi.org/10.1097/00007632-199612150-00002>
- Heliövaara M, Mäkelä M, Knekt P, Impivaara O, Aromaa A. Determinants of sciatica and low back pain. *Spine*. 1991; 16(6):608-14. <https://doi.org/10.1097/00007632-199106000-00002>
- Barnekow-Bergkvist M, Hedberg GE, Janlert U, Jansson E. Determinants of self-reported neck shoulder and low back symptoms in a general population. *Spine*. 1998; 23(2):235-43. <https://doi.org/10.1097/00007632-199801150-00017>
- Viikari-Juntura E, Vuori J, Silverstein B, Kalimo R, Kuosma E, Videman T. A life-long prospective study on the role of psychosocial factors in neck-shoulder and low-back pain. *Spine*. 1991;16(9):1056-61. <https://doi.org/10.1097/00007632-199109000-00008>
- Bialosky JE, Simon CB, Bishop MD, George SZ. The basis for spinal manipulative therapy: a physical therapist perspective. *J Electromyogr Kinesiol*. 2012; 22(5):643-7. <https://doi.org/10.1016/j.jelekin.2011.11.014>
- Chou R, Qaseem A, Snow V, Casey D, Cross JT, Shekelle P, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*. 2007; 147(7):478-91. <https://doi.org/10.7326/0003-4819-147-7-200710020-00007>  
<https://doi.org/10.7326/0003-4819-147-7-200710020-00008>  
<https://doi.org/10.7326/0003-4819-147-7-200710020-00006>
- Deyo RA, Mirza SK, Turner JA, Martin BI. Overtreating chronic back pain: time to back off? *J Am Board Fam Pract*. 2009; 22(1):62-8. <https://doi.org/10.3122/jabfm.2009.01.080102>
- Keith MW, Masear V, Chung KC, Maupin K,

- Andary M, Amadio PC, et al. American Academy of Orthopedic Surgeons Clinical Practice Guideline on. *J Bone Joint Surg.* 2009; 91(10):2478-9.  
<https://doi.org/10.2106/JBJS.I.00643>
17. Andersson GB. Epidemiological features of chronic low-back pain. *The Lancet.* 1999;354(9178):581-5.  
[https://doi.org/10.1016/S0140-6736\(99\)01312-4](https://doi.org/10.1016/S0140-6736(99)01312-4)
18. Croft PR, Macfarlane GJ, Papageorgiou AC, Thomas E, Silman AJ. The outcome of low back pain in general practice: a prospective study. *Bmj.* 1998; 316(7141):1356.  
<https://doi.org/10.1136/bmj.316.7141.1356>.