Effectiveness of DORN Therapy on Low Back Pain and Lumbar Range of Motion in Housewives

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Abstract

Background: In many nations, low back pain (LBP) is a prevalent medical condition which significantly disrupts a person's physical, social, mental, and professional life. Women traditionally conduct housework as unpaid labour. It requires performing required domestic chores on a regular basis, which can lead to musculoskeletal disorders like LBP. Therefore, the purpose of this study was to ascertain how Dorn Therapy affected housewives' LBP and lumbar range of motion (ROM).

Methods: A Quasi Experimental single blinded clinical study was carried out that consisted of thirty housewives with acute LBP. Participants received DORN therapy and as outcome measures, the Modified-Modified Schober's test and the Numerical Pain Rating Scale (NPRS) for lumbar ROM and pain, respectively, were used. Participants had evaluations both before and after the treatment.

Results: Paired t test showed that NPRS and lumbar range of motion had significant improvement ($p<0.0001$) after application of the DORN Therapy.

Conclusions: DORN therapy shows significant effect on reducing low back pain and improving lumbar ROM in housewives.

Keywords: low back pain, numerical pain rating scale, dorn therapy, sciatica, range of motion.

Introduction

Low back pain (LBP) is the most prevalent clinical complaint at work and one of the major contributors to health issues in the developed world [1]. The lower part of back holds the most of the weight. Even minor affection of muscles, bones, ligament can cause when a person stands, bends or moves around [2]. The symptoms usually encountered are pain, muscle tension, or stiffness localized below the costal margin [3].

The prevalence of LBP ranges from 60 to 80%, and of these cases, 80 to 90% of patients have pain relief during the first two to three months, while the other patients (approximately 10 to 20%) acquire syndromes related to chronic pain [4–6]. The prevalence of LBP in India is particularly concerning as around 60% of Indians have severe back pain at some point in their lives [7].

According to research, women experience more pain than men do which affects 24.3% of women versus 20.9% of men. At a certain point in their lives, 83% of all women that are non-working report having LBP [8]. LBP prevalence rises linearly; beyond that, it gradually falls and is more common in women [9].

The DORN approach is a therapeutic, safe, and does not involve manipulation treatment which is used to realign the spine. Spinal misalignments may result in nerve compression, which can lead to a number of conditions. This technique comprises dynamic motion correction and the moderate application of pressure. According to the belief of the Dorn therapy practitioners, movement is the basis of the therapy as each correction happen in dynamics resulting in extension of muscles to which they cannot offer resistance and are therefore liberated from tension while maintaining muscle length [10,11].

Research is required to examine the DORN therapy selection, and its long-term efficiency may be examined to provide a better knowledge of treatment [11]. Less research is available regarding the impact of Dorn therapy on LBP and lumbar ROM. Therefore, the purpose of this study is to ascertain how Dorn therapy affects LBP and lumbar ROM in housewives.

Methodology:

This Quasi Experimental single blinded clinical study that involved housewives having LBP. 30 total participants through Convenient Sampling method were recruited from Physiotherapy clinics and Hospitals in and around Pune. All pertinent information on the participants' intervention protocol was given to them and written informed consent was received after being fully informed of its goals and limitations. The study sample included housewives having acute LBP, aged between 30-50 Years, pain intensity on NPRS >5/10, Previous Abdominal or Spine surgery, any Spine Deformities, associated Neurological Conditions and Obese Patient (BMI > 29.9) were excluded.

All subjects received DORN therapy. Patient position was standing with neck in neutral position and arms along the sides. The patient's cooperation should be solicited before treatment, and they should be advised to alternately and rhythmically conduct lumbar flexion and extension. A fist is made with the right hand as the therapist stands laterally to the patient, bracing the anterior pelvic region with the left hand. The patient is instructed to alternately conduct lumbar flexion and

extension 10 times each as the therapist applies gentle pressure with the right hand's knuckles to the lower lumbar vertebrae (L4/L5). The second set of 10 repetitions each is given after a time of relaxation while providing pressure to the vertebrae. The third set is then added again. Between each set, a quick reassessment should be made [10,11].

All outcome measures' post-treatment data were collected and recorded. The statistical analysis was carried out using SPSS software, version 20. The significance level was maintained at $p>0.05$. For intragroup comparison, paired t-tests were utilized.

Results

Table 1 demonstrates comparison of NPRS values Pre and Post DORN treatment P value was <0.001 which considered extremely significant. The pre-treatment mean was 6.27 with SD of 1.08 while post-treatment mean was 4.77 with SD of 1.19. The t value was 11.23. comparison of Lumbar ROM values Pre and Post DORN treatment P value was <0.001 which considered extremely significant. The pre-treatment mean was 5.22 with SD of 1.22 while post-treatment mean was 5.75 with SD of 1.13. The t value was 5.33.

Outcomes	**Pre-treatment Mean**	**Post-treatment Mean**	**P-value**
NPRS	6.27	4.77	<0.001
Lumbar ROM	5.223	5.753	<0.001

Table 1: Outcome measures demonstrating pre-treatment and post-treatment values.

Discussion

This study was intended to see the effectiveness of DORN therapy on LBP and lumbar ROM in housewives. The results show that DORN therapy is beneficial in terms of pain relief and spinal mobility. A study was conducted on LBP and lumbar ROM in housewives. 30 subjects were assessed for LBP and lumbar ROM. In this study pain was assessed by NRS and lumbar ROM was assessed by modified-modified schober's test.

The life time incidence of LBP has been reported up to 60-80%, and out of these about 80-90% of cases become chronic if not treated immediately [9]. Movement is the core element in the treatment. Dynamic movement is used. This movement stretches and corrects muscle function. As muscle tension is released muscles are unable to offer resistance to the movement. As muscle tension is released, muscle length is also maintained [8]. Stabilization of anatomical structures may prevent abnormal muscle action. Principals of leverage forces and counter-pressure in combination with the active participation of the patient provide muscle flexibility.

This way of correcting muscle action is usually readily accepted by the body. Analysis of pre-treatment and post-treatment results revealed that there was a decrease in pain and lumbar ROM was increased after treatment. The comparison of NRS values Pre and Post DORN treatment P value was <0.001 which is considered extremely significant. The pre-treatment mean was 6.27 with SD of 1.08 while post-treatment mean was 4.77 with SD of 1.19. The t value was 11.23.

The comparison of Lumbar ROM values Pre and Post DORN treatment P value was <0.001 which is considered extremely significant. The pre-treatment mean was 5.22 with SD of 1.22 while post-treatment mean was 5.75 with SD of 1.13. The t value was 5.33. In this study DORN therapy shows an empowering effect on reducing LBP and improving lumbar ROM in housewives. Future scope of study, It can be further studied on larger population. There can be comparison between DORN therapy and other treatment protocols. It can include other age groups. It can include other occupation. Long term effect can be studied.

Conclusion

In this study DORN therapy shows significant effect on reducing low Back pain and improving lumbar ROM in housewives.

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