

Effectiveness of Lumbar kinesiотaping in women with pregnancy related Lower Back Pain

[Praveena.T]

i. Introduction

(Lower Back Pain)

Low back pain (LBP) is a common disorder involving the muscles, nerves, and bones of the back. (Hoy D Bain, 2012) Pain can vary from a dull constant ache to a sudden sharp feeling. The condition may be further classified by the underlying cause as either mechanical, non-mechanical, or referred pain. The symptoms of low back pain usually improve within a few weeks from the time they start, with 40–90% of people completely better by six weeks.

Low back pain is a common condition during pregnancy, affecting more than two-thirds of pregnant women. (Vermani E 2010) It has been reported that low back pain affects between 45% and 75% of women at some time during their pregnancy. (Liddle SE, 2015)

Pregnancy related low back pain may be due to changes in ligament laxity and posture, there are several causes of low back pain during pregnancy, including lumbosacral disc herniation, musculoskeletal diseases, pregnancy related osteoporosis, and sacral stress fractures. However patients and clinicians have inadequate information about physiotherapy management and fear of

possible harmful effects of treatment on the developing fetus

Physiotherapy is commonly prescribed for the woman with pregnancy related lower back pain as a conservative treatment that aims to relax muscles, relieve pain, improve posture, and restore the functional activities. Physiotherapy management include muscle stretching exercises, antenatal exercises, postural correction and relaxation techniques. Kinesio taping method.

Elastic therapeutic tape, also called kinesiology tape or k-tape, is an elastic cotton strip with an acrylic adhesive that is used with the intent of treating pain in individuals with musculoskeletal pain, research suggests that elastic taping may help relieve pain, but not more than other treatment approaches, and there is no evidence that it can reduce disability in chronic pain cases. (Wade Alison, 2014)

Although some studies have examined the effects of Kinesio taping application in non-pregnant patients with non-specific low back pain (Kelle B, 2015), there were limited studies for effectiveness of Kinesio taping on pregnancy-related low back pain.

Therefore the aim of the study was to find out the effectiveness of lumbar Kinesio taping on pain intensity and disability in women with pregnancy related low back pain.

II. Objectives

(General Objective)

To assess the effectiveness of lumbar Kinesio taping on pain intensity and disability in women with pregnancy related low back pain.

III. Methods and Material

This is a randomized control study. Patients diagnosed with pregnancy related lower back pain from medical officer clinic (MOH clinic, Kandy) satisfying the inclusion and exclusion criteria were included in the study. By convenient sampling 40 participants were divided into an intervention group and a control group. Among these 20 participants from each group completed the study and were included for analysis. The control group received physiotherapy treatment includes antenatal exercises alone whereas intervention group received specific lumbar kinesio taping method in addition.

The treatment protocol for the control and intervention groups included 30 minutes antenatal exercises treatment session include fitness ball exercises, sit with gym ball, 10mins walking session, and aerobic exercises. At the first visit take initial assessment, end of one week outcome measured using reassessment.

Lower back pain intensity, was assessed by Visual analogue scale (VAS), and the disability was assessed by modified Oswestry lower back pain disability questionnaire. Data was collected using a

standard lower back pain assessment format. Participants were assessed by physiotherapist before the start of treatment and at the end of one week completion of one week of physical therapy treatment.

All analyses were performed with MINITAB statistical software (version14). Frequency distributions as well as means and standard deviations were used for descriptive purposes. At the baseline, differences in age was analysed using the two-sample Wilcoxon rank sum test. Differences between treatment groups in change scores at the baseline and at the end of each treatment session over a period of one week was analysed with the two-sample Wilcoxon rank sum test. Repeated measurements obtained before and after treatments within groups were also analysed with the two-sample Wilcoxon rank sum test. The Kruskal Wallis test was performed to estimate differences between age groups for each studied outcome. The alpha level for significance was set at 0.05.

IV. Results and Discussion

The measurements in VAS, Modified Oswestry lower back pain disability questionnaire shows significant improvement in intervention group than the control group at the end of one week treatment period. In the control group VAS for pain measurement has reduced from 72.54 ± 33.24 to

10.05 ± 8.52, the disability score has reduced from 60.50±29.11 to 11.13 ± 9.05. and intervention group VAS for pain measurement has reduced from 78.54±23.24 to 8.05 ± 4.52, the disability score has reduced from 68.50±19.16 to 10.23 ± 7.05.

Intergroup comparisons to analyse the improvement in woman pregnancy related lower back pain, and disability after the one week treatment have shown statistically significant difference between the groups.

v. Conclusion

The results of this study show that the participants who received physiotherapy management and lumbar kinesio taping method had significant improvement at the end of the one week physiotherapy treatment session. The study finally concludes that according to the study results between the control and the intervention groups have significant differences. Therefore women with pregnancy related lower back pain can treat with lumbar kinesio taping techniques and physiotherapy management to improve their quality of the life.

vi. Acknowledgement

This research project would not have been succeeding without the support of many people who were supported me throughout the whole project.

First we offer our most sincere gratitude to our supervisor, Dr. Asela Rathnayake (Orthopaedic Surgeon, Kandy) who has supported us throughout our thesis with his patience and knowledge whilst

allowing me to work in our own way. This thesis had been completed due to his encouragement and excellent guidance. Our special thanks should be given to Dr. (Mr.) R.D. Peris, Senior lecturer of Faculty of Dental Science and Demonstrations' staff, Faculty of Science who joined with us for the complex part of analyzing data in an accurate statistical method.

Finally, with great respect, we would like to express our heartfelt thanks to our beloved parents for their blessings, encouragements, caring and financial support. We express our deepest gratitude to friends for their help and wishes for the successful completion of this research

References

- [1] Qaseem, A; Wilt, TJ; McLean, RM; Forciea, MA; Clinical Guidelines Committee of the American College of Physicians. (4 April 2017). "Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians". *Annals of Internal Medicine*. 166 (7): 514–530.
- [2] Hoy D, Bain C, Williams G, et al. (June 2012). "A systematic review of the global prevalence of low back pain". *Arthritis Rheum*. 64 (6): 2028–37.

[3] Wade, Alison (10 September 2014). "Maker of Kinesio Tape Threatens Sport Lab in Name Dispute". Runner's World. Retrieved 23 February 2018.; Domrzalski, Dennis (12 November 2010).

[4] Williams S, Whatman C, Hume PA, Sheerin K (2012). "Kinesio taping in treatment and prevention of sports injuries: a meta-analysis of the evidence for its effectiveness". Sports Med. 42 (2): 153–64.

[5] Kelle B, Güzel R, Sakallı H. The effect of Kinesio taping application for acute non-specific low back pain: A randomized controlled clinical trial. Clin Rehabil. 2015

[6] Kachanathu SJ, Alenazi AM, Seif HE, et al. Comparison between kinesio taping and a traditional physical therapy program in treatment of nonspecific low back pain. J Phys Ther Sci. 2014;26(8):1185–88.

[7] Vermani E, Mittal R, Weeks A. Pelvic girdle pain and low back pain in pregnancy: A review. Pain Pract. 2010;10(1):60–71.

**Authors Name: PRAVEENA THIRUVASAGAR
PRAVEENA. T
General Sir John Kotelawala Defence University
Srilanka**



Key words: Pregnancy, lower back pain,
Lumbar Kinesio taping , Visual Analogue Scale,