

## RESEARCH ARTICLE

## FREQUENCY OF KINESIOPHOBIA IN PREGNANCY RELATED LOW BACK PAIN

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## ABSTRACT

**Background:** For a small but significant group, pregnancy-related lumbopelvic pain may become persistent. While multiple factors may lead to post-partum disabilities' such as kinesiphobia sleep disturbance, body perception or mindfulness. **Objective:** To explore the frequency of kinesiphobia in pregnancy related low back pain. **Methodology:** The Cross sectional study was conducted on n=97 pregnant women in 3<sup>rd</sup> trimester presenting to gynaecology outpatient department of Ghurki Trust and Teaching hospital from August 2016 to January 2017 were included in the study through non probability convenient sampling technique. All women were experiencing low back pain in their third trimester of pregnancy. Numeric Pain Rating Scale (NPRS) was used to determine pain whereas; the kinesiphobia was assessed by using Tampa scale of kinesiphobia (TSK). The mean  $\pm$  standard deviation, frequency and percentages were used for description of result. SPSS Ver. 20 was used for data analysis. **Results:** The mean age of n=97 pregnant women having low back pain was 29.45 $\pm$ 5.87 years Results showed that, n=18(18.6%) patients represented high level of kinesiphobia while n=52 (53.6%) and n=27 (27.8%) had moderate and low levels of kinesiphobia respectively. The result also showed strong positive correlation between pain and level of kinesiphobia ( $r_s=0.708$ ,  $p<0.001$ ). **Conclusion:** The study concluded that all women those having low back pain in 3<sup>rd</sup> trimester also has kinesiphobia. The level of LBP highly contributes in kinesiphobia.

**Keywords:** Kinesiophobia, lumbo pelvic pain, pregnant women, postpartum depression.

## INTRODUCTION

Women's body undergoes enormous changes during pregnancy that includes weight gain, metabolic changes and increased production of various hormones. The most commonly observed postural changes include increased curvature of lumbar spine. It has been noted that lumbar curvature increases significantly during 3<sup>rd</sup> trimester of pregnancy and is accompanied by greatest symptom of low back pain related to pregnancy<sup>1</sup>. The prevalence of pregnancy related low back pain is 50.9%<sup>2</sup>. Exact cause behind occurrence and progression of lumbar pain during pregnancy is not clear. There is an ambiguity in whether physical inactivity is the cause of pain in lower back or low back pain has a negative impact on activity of pregnant women<sup>3</sup>.

Kinesiophobia, a fear of physical movement and activity, has a strong positive correlation with acute low back pain. The patients with high kinesiphobia have reduced activities of daily living and greater level of pain<sup>4</sup>. The Kinesiophobia if not dealt with timely can result in decrease in the physical activity and disability hence affecting the quality of life<sup>5</sup>. Physical health status of a person with kinesiphobia deteriorates because lack of activity causes deconditioning of musculoskeletal system of the body<sup>6</sup>. Kinesiophobia also causes depression

because of dependency on others for completion of activities of daily living<sup>7</sup>.

There is paucity in literature about the prevalence of kinesiphobia in Pakistani pregnant women having low back pain. In Pakistan majority of gynaecologists or clinicians advised to restrict the movement in pregnancy especially in 3<sup>rd</sup> trimester to avoid low back pain. Which further induce the fear of movement that causes even postnatal physical as well as psychological issue related to quality of life. The awareness about the magnitude of study may help in planning the appropriate strategies to avoid negative effect on quality of life among the study population. So the aim of study was to explore the frequency of Kinesio-phobia in pregnant women having low back pain.

## METHODOLOGY

A cross sectional study was conducted on n=97 pregnant women presenting to gynaecology OPD of Ghurki Trust Teaching and Surgimed Hospital from August 2016 to February 2017 after getting the permission from Institutional/Ethical review Board (IRB/ERB in letter no (ERC/LCPT 025). The Pregnant women who were in their third trimester of pregnancy with history of back pain were recruited in the study, whereas women with high-risk pregnancy including gestational diabetes and hypertension as well as non-mechanical low back

pain were excluded. The Written informed consent was obtained from all participants after explaining the purpose and significance of the study. The pain intensity was measured using Numeric Pain Rating Scale (NPRS)<sup>8,9</sup>. The Kinesiophobia was assessed by original version of 17 items Tampa Scale for Kinesiophobia (TSK) With Cronbach  $\alpha=0.80$  in acute low back pain<sup>10</sup>. The TSK scores range from 17-68 with score ranging from 17 to 33 as low kinesiophobia, 34-50 as moderate and 51-68 was considered as high level of kinesiophobia. The data was analyzed on Statistical Package of Social Sciences (SPSS) Version 21.0. The data was presented in the form of mean $\pm$ Std, Spearman's rank correlation coefficient between LBP and

kinesiophobia was also measured and the level of significance was at  $p<0.05$ ).

## RESULTS

The mean age of  $n=97$  pregnant women having low back pain was  $29.45\pm 5.87$  years. The mean score of the kinesiophobia was  $25.14\pm 3.43$ , which showed that the  $n=18$  (18.6%) patients represented high level of kinesiophobia while  $n=52$  (53.6%) and  $n=27$  (27.8%) had moderate and low levels of kinesiophobia respectively. The detail frequency distribution of kinesiophobia according pain category can be seen (Figure 1). The result also showed strong positive correlation between pain intensity and kinesiophobia ( $r_s=0.708$ ,  $p<0.001$ )

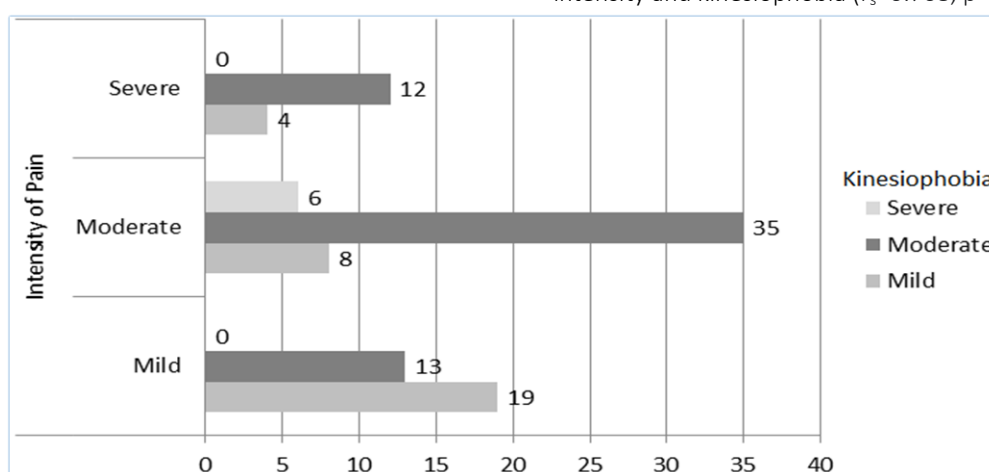


Figure 1: Frequency distribution of kinesiophobia according pain category

## DISCUSSION

The study objective was to explore the frequency of kinesiophobia in pregnant females experiencing low back pain mainly in the third trimester of pregnancy. The result showed that all pregnant female having LBP showed some level of kinesiophobia and have positive correlation between the intensity of pain and kinesiophobia.

Vlaeyen JW et al have suggested that pregnancy-related LBP was associated not only with physical factors but also with psychological factors such as stress, catastrophizing, and fear-avoidance beliefs that result from fear of pain, (re)injury, and movement<sup>11</sup>. In another study investigating the relation between PGP (included in LPP) and fear of movement, the latter was significantly higher in pregnant women with PGP than in healthy pregnant women. According to the results of study most of the females with pregnancy related low

back pain experience moderate level of kinesiophobia. The previous study conducted by Beales compare post-partum female who experience no pain with post-partum female experiencing persistent lumbo-pelvic pain concluded that females who experienced lumbo-pelvic pain that can cause the moderate level of disability showed greater levels of kinesiophobia. The above mention study coincided with this study as there was relation between the moderate level of kinesiophobia and pregnancy related low back pain<sup>12</sup>.

Level of kinesiophobia is associated with pregnancy related low back pain and the pain intensity while it contradicted with the previous cross sectional study where increased kinesiophobia was found in pregnancy-related low back pain subjects with moderate disability, irregular sleep and decrease body perception. The results support the consideration of these factors in the assessment

and management of pregnancy-related lumbopelvic pain.

Furthermore, the recent study concluded that moderate level of kinesiophobia is more common in the 7<sup>th</sup> month of pregnancy especially in the patient who experience pelvic low back pain. The findings of current study contradict with the study by Annile in 2011 where she concluded that there is minor level of kinesiophobia in patient with postpartum period as well<sup>13</sup>.

Another observational cross-sectional study coincided with results of my study that was directed in 2011 by Rogério Sarmiento Antunes where 193 participants with low back pain were included. In the study the depression was evaluated by Beck Depression Inventory, fear of movement by Tampa Scale and pain severity by McGill Questionnaire. The participants with depression showed unsatisfactory scores in relation to fear of movement, pain and quality of life<sup>14</sup>. Considering this finding not withstanding reports that women in the perinatal stage are more intellectually fragile than in different stages of their lives, fear of movement may be more grounded in pregnant women<sup>15,16</sup>.

The first limitation of this study was that all data was self-reported, furthermore sample size and setting which compromised the generalizability of the result is small with limited clinical settings so the study be conducted in multicenter setting with large sample size.

## CONCLUSION

This study found that Majority of the females with pregnancy related low back pain experience moderate level of kinesiophobia mainly in their last trimester of pregnancy during 7th month. There is a strong positive correlation between pain and level of kinesiophobia further studies should be conducted on participants with all trimesters in pregnancy as well as in multicentre clinical settings on lager sample size.

## REFERENCES

1. Yoo H, Shin D, Song C. Changes in the spinal curvature, degree of pain, balance ability, and gait ability according to pregnancy period in pregnant and nonpregnant women. *J Phys Ther Sci.* 2015;27(1):279-84
2. Long G, Yao ZY, Na Y, Ping Y, Feng Y, Xiangsheng T, et al. Hand grip strength as a predictor of recovery from low

- back pain in the pregnant women-a prospective study. *J Orthop Sci.* 2021;26(4):566-71.doi:10.1016/j.jos.2020.06.002.
3. Thorell E, Kristiansson P. Pregnancy related back pain, is it related to aerobic fitness? A longitudinal cohort study. *BMC pregnancy and childbirth.* 2012;12(1):30.doi:10.1186/1471-2393-12-30
4. Arun B, Auriff SM, Nagarajan M. Association between the acute low back pain and kinesiophobia—a correlation study.
5. Uluğ N, Yakut Y, Alemdaroglu i, Yilmaz Ö. Comparison of pain, kinesiophobia and quality of life in patients with low back and neck pain. *J Phys Ther Sci.* 2016;28(2):665-70
6. Cozzi AL, Dunn KL, Harding JL, McLeod TCV, Bacon CEW. Kinesiophobia after anterior cruciate ligament reconstruction in physically active individuals. *J Sport Rehabil.* 2015;24(4):434-9.
7. De SD, Vranceanu A-M, Ring DC. Contribution of kinesiophobia and catastrophic thinking to upper-extremity-specific disability. *J Bone Joint Surg Am .* 2013;95(1):76-81. doi: 10.2106/JBJS.L.00064.
8. Kahl C, Cleland J. Program pt, college fp. Hampshire N Visual analogue scale, numeric pain rating scale and the McGill pain questionnaire: an overview of psychometric properties *Phys Ther Rev.* 2005;10:123-8.doi:10.1179/108331905X55776.
9. Acar S, Savci S, Keskinoglu P, Akdeniz B, Özpelit E, Kahraman BÖ, et al. Tampa scale of kinesiophobia for heart turkish version study: Cross-cultural adaptation, exploratory factor analysis, and reliability. *J Pain Res .* 2016;9:445-51. doi: 10.2147/JPR.S105766.
10. Swinkels-Meewisse E, Swinkels R, Verbeek A, Vlaeyen J, Oostendorp R. Psychometric properties of the tampa scale for kinesiophobia and the fear-avoidance beliefs questionnaire in acute low back pain. *Man Ther .* 2003;8(1):29-36. doi: 10.1054/math.2002.0484.
11. Hudes K. The tampa scale of kinesiophobia and neck pain, disability and range of motion: A narrative review of the literature. *J Can Chiropr Assoc .* 2011;55(3):222-32.
12. Beales D, Lutz A, Thompson J, Wand BM, O'Sullivan P. Disturbed body perception, reduced sleep, and kinesiophobia in subjects with pregnancy-related persistent lumbopelvic pain and moderate levels of disability: An exploratory study. *Man Ther .* 2016;21:69-75. doi: 10.1016/j.math.2015.04.016.
13. Marshall PW, Schabrun S, Knox MF. Physical activity and the mediating effect of fear, depression, anxiety, and catastrophizing on pain related disability in people with chronic low back pain. *PLoS one.* 2017;12(7):e0180788. doi: 10.1371/journal.pone.0180788. eCollection 2017.
14. Gutke A, Lundberg M, Östgaard HC, Öberg B. Impact of postpartum lumbopelvic pain on disability, pain intensity, health-related quality of life, activity level, kinesiophobia, and depressive symptoms. *Eur Spine J .* 2011;20(3):440-8. doi: 10.1007/s00586-010-1487-6.
15. Antunes RS, Macedo BGd, Amaral TdS, Gomes HdA, Pereira LSM, Rocha FL. Pain, kinesiophobia and quality of life in chronic low back pain and depression. *Acta Ortop Bras.* 2013;21(1):27-9. doi: 10.1590/S1413-78522013000100005.
16. Angelo RdCdO, Sabino LF, Schwingel PA, Lima APO, Zambaldi CF, Cantilino A, et al. Pain and associated factors in depressed and non depressed puerperal women. *Revista Dor.* 2014;15:100-6

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