

Research Article

Correlation of kinesiophobia with postpartum depression in females with lumbo-pelvic pain

Sameen Saeed¹, Zainab Hassan², Shafaq Altaf³, Farwa Asad⁴, Faisal Ashraf⁵

ABSTRACT

Background: Lumbopelvic pain (LPP) is common during pregnancy associated with postpartum depressive symptoms. These negatively affect maternal health and behavior, such as exercise and physical activity ultimately leads to kinesiophobia.

Objective: To determine the association of kinesiophobia with postpartum depression in females with lumbo-pelvic pain.

Methods: A cross-sectional study was conducted on 89 postpartum women with lumbo-pelvic pain within six months of delivery in Jinnah Hospital, Lahore. Nonprobability convenience sampling was used to collect the data. Females presenting with lumbo-pelvic pain were selected based on inclusion and exclusion criteria. Lumbo-pelvic pain severity, kinesiophobia and depression were measured by Visual Analogue Scale, Tampa Scale and Zung Self Rating Depression Scale, respectively. Pearson correlation was used to determine the correlation between kinesiophobia and depression.

Results: The mean age of participants was 29.14 ± 3.28 years. The mean pain score of lumbosacral pain was 1.989, Kinesiophobia was 47.5169 and depression was 60.2247. There was significant strong positive correlation ($r=0.786, p<0.001$) between Kinesiophobia and postpartum depression among female having lumbosacral pain.

Conclusion: There was strong association of kinesiophobia with postpartum depression in females with lumbo-pelvic pain.

Key words: Depression, kinesiophobia, lumbo-pelvic pain, pregnancy

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INTRODUCTION

Pregnancy can have profound physiologic effects on a female's body affecting but not limited to musculoskeletal system particularly the axial system [1]. It brings about several musculoskeletal changes including changes in posture and subsequent musculoskeletal discomfort in the lower back, pelvic girdle or both causing a reduction in the quality of life of the young mothers by limiting or disturbing their sleep and activities of daily living [2, 3].

Over half of pregnant females experience lumbo-pelvic pain [3, 4] while about 5% to 40% experience it even after six months of delivery [5] and 20% are known to have painful episodes to as long as 3 years post-delivery[6]. Furthermore, the predominance of depressive symptoms being multiple times higher in females experiencing lumbo-pelvic pain for 3 months postpartum than those without lumbo-pelvic pain is backed by evidence[7].

Chronic pain often results in further limitation of daily activities due to anticipation of pain which aggravates depressive symptoms, immobility or misuse [8]. The fear of pain leads to a fear of movement termed as Kinesiophobia [9] which has a strong positive correlation with pain of lumbopelvic origin[10]. Kinesiophobia has shown to significantly reduce physical activity thus not only negatively impacting the overall the functional performance [11] but particularly the mental state of an individual as well due to being relatively dependent on others for routine activities[12]. The fear of physical activity causing pain increases immobility in postpartum females and eventually leads to deterioration of mental health[13].

Due to such negative consequences of chronic pain, there needs to be found evidence regarding association of kinesiophobia and depression in postpartum females with lumbo-pelvic pain as it is affecting a substantial population of young mothers. The study aims to determine the association of kinesiophobia with postpartum depression in females with lumbo-pelvic pain.

METHODOLOGY

It was a cross-sectional study conducted in the Gynecology and Obstetrics department of Jinnah Hospital, Lahore from July to December 2021 after taking approval from the Research & Ethics Committee of Riphah College of Rehabilitation Sciences (REC/RCR & AHS/21/-529) The females between age of 20 to 40 years having delivery within last six months, having lumbo-pelvic pain and being able to carry out activities of daily life independently were included. Those with a history of neoplasm, spinal fracture or systemic locomotor

disease as well as any previous spinal, femur or pelvic surgery were excluded. The sample size was calculated to be 81 using Epitool with 5% margin of error and confidence interval of 90% while after addition of 10% attrition rate, a sample size of n=89 was used [6]. Non-probability convenience sampling technique was used to collect data.

Informed consent was taken before data collection and confidentiality of the participants was maintained. The outcome measure tools used included Visual Analog Scale (VAS) for severity of pain with a score between 1 to 3 denoting mild pain, 4 – 6 moderate pain and 7 to 10 severe pain [10]. Tampa Scale of Kinesiophobia (TSK) to evaluate fear of movement, fear of work-related activities, fear of avoidance and fear of re-injury with a total score of the scale range from 17- 68, where 17 means no kinesiophobia, 68 means severe kinesiophobia, and score 18–67 indicates kinesiophobia [11,12] in addition Zung Self-Rating Depression Scale which is short-self-administered survey to quantify the depressed status of a patient. Each question is scored on a scale of 1-4 (a little of the time, some of the time, good part of the time, most of the time). The scores range from 25-100 with 25-49 representing normal state, 50-59 mild depression, 60-69 moderate depression while 70 and above denoting severe depression[14].

The data was analyzed on SPSS software version 25. The data was presented with mean and standard deviation for numerical variables while frequencies and percentages calculated for categorical variables. To determine the correlation between kinesiophobia and depression determined by Pearson product-moment correlation coefficient.

RESULTS

The Mean age was 29.14 ± 3.28 years with minimum age of 25 years and maximum age of 37 years. A total of n36(40%) subjects had parity between 3 to 6 and n=53(59.55%) females had parity between 1 to 3. The overweight subjects with a BMI between 25-30 were n=43(48.31%), n=17(19.1%) were obese with BMI > 30 and n=29(32.58%) were having normal weight falling in range 18-25.

The mean score of lumbosacral pain on VAS was 1.98 ± 0.28 , the majority of participants i.e., 82(92.13%) had moderate pain 4(4.49%) had mild pain and 3(3.47%) had severe pain. As per Tampa scale the mean score was 47.5169 ± 10.243 years with minimum score of 24% and maximum score of 63%. no kinesiophobia was present in n=4(4.5%) of subjects, in n=80(89.9%) of subjects kinesiophobia was present and severe kinesiophobia was present in 5(5.6%) of subjects.

The mean score of depression on the Zung Self Rating Depression Scale was 60.2247. The majority of participants had severe depression i.e. $n=63(70.8\%)$ while $n=13(14.6\%)$ had moderate depression, $n=10(11.2\%)$ had mild depression with only $n=3(3.4\%)$ participants not having any depression at all.

The results showed that there was significant strong positive correlation ($r=0.826$, $p<0.001$) between Kinesiophobia (47.51 ± 10.24) and postpartum depression (60.22 ± 9.56) among female having lumbosacral pain. (Figure 1)

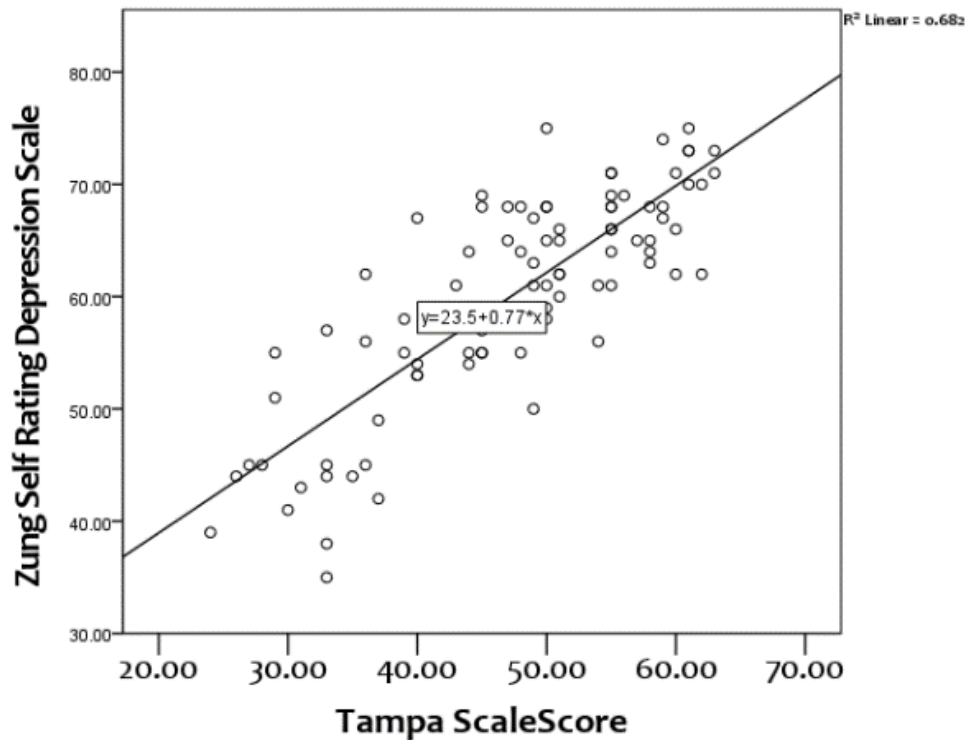


Figure 1: Correlation between the depression and kinesiophobia.

DISCUSSION

In the current study, we investigated the association of kinesiophobia and postpartum depression in females with lumbo-pelvic pain within six months of delivery. The association between kinesiophobia and depression in postpartum females with lumbo-pelvic pain came out to be significant.

The literature suggests that a variety of factors can lead towards postpartum depression, one of which is lumbo-pelvic pain itself in late pregnancy[15]. A study has shown that pregnancy related lumbo-pelvic is related not only with physical factors but with mental factors as well such as stress, catastrophizing and fear avoidance beliefs that are an outcome of fear of pain, re-injury and movement [16]. It supported the results of the current study in which majority of participants with lumbopelvic pain reported severe depression. A study was conducted to investigate the association between pelvic girdle pain and fear of movement and it was found that the latter is higher in pregnant women with pelvic girdle pain than healthy pregnant

women [10] which is in accordance with the current study demonstrating association of kinesiophobia with postpartum females having depressive symptoms as well as pain in pelvic region. It results with the mechanism of fear avoidance model (FAM) is the vicious circle wherein pain evolves into depressive symptoms. This model is often applied to patients with chronic pain, including LBP. According to FAM, during a musculoskeletal pain episode, catastrophizing brings on pain-related fear that leads to avoidance of activities, and the excessive caution might cause disability, disuse, and depressive symptoms. Pain-catastrophizing patients will maintain pain experiences, thereby fueling the vicious circle of increasing fear and avoidance. One element of this vicious circle is fear of movement called kinesiophobia, which is defined as avoidance behavior and hypervigilance to bodily sensations which has been reported to be a predictive factor of depressive symptom[8].

Ebina A et al. conducted a study on women suffering from lumbo-pelvic pain in late pregnancy to investigate association between depression and kinesiophobia one month after delivery. In

univariate analysis, kinesiophobia was higher in females exhibiting depression than the group of females with no depression with kinesiophobia at one month after pregnancy being significantly associated with depression[2]. A recent cross-sectional study conducted by Sarwat M et. Al also showed strong correlation between the variables with a perceptibly high recurrence of kinesiophobia in post-caesarian females with low back and pelvic pain, [17] similar to the current study. Antunes RS et al. also concluded in their study that patients with low back pain and depression had a greater fear of movement [18].

Since the data was collected from a single set-up, and sample of convenience so the external validity may be affected.

CONCLUSION

The depression among postpartum female having lumbosacral pain has strong correlation with kinesiophobia. It is recommended that future studies may involve multiple centers nationwide alongside analyzing association of other social elements such as socioeconomic background and interpersonal relationships which may impact both depression and kinesiophobia in females with lumbopelvic pain, which have not been addressed in the current study.

Author's Contribution

SS: Idea, concept and design, data collection.

ZH and SA: Drafting the work and revising it critically for important intellectual content.

FA: Data collection and analysis of data and interpretation of data.

SS, ZH, SA, FA, and FA: final approval of the version to be published and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All authors contributed to the article and approved the submitted version.

Ethical Statement

The study was conducted in Gynecology and Obstetrics department of Jinnah Hospital, Lahore (DCC-29/01/2022) after taking approval from the Research & Ethics Committee of Riphah College of Rehabilitation Sciences (REC/RCR & AHS/21/529).

Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Acknowledgments

None to declare.

Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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