

Frequency of Pain Catastrophizing and Kinesiophobia Among Post Cesarean Females with Low Back and Pelvic Pain

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Abstract

Objective: The objective of the study is to determine the frequency of pain catastrophizing and kinesiophobia and the possible relation between these variables in post-caesarean females with low back and pelvic pain in Lahore, Pakistan

Study Design: This descriptive cross-sectional study was conducted within six months duration from March 2017 to August 2017 in Lahore.

Methodology: Convenient sampling technique was used and a sample of 138 post cesarean females with low back and pelvic pain was collected from four different hospitals of Lahore. Post-cesarean primary & secondary parous females, aged between 20 to 40 years, with a complaint of non-specific low back and pelvic pain within six months after delivery were included in the study. Pain catastrophizing scale and Tampa scale of kinesiophobia were used to determine pain Catastrophizing behavior and kinesiophobia.

Results: Out of 138 participants, 46% participants had kinesiophobia, and 37% showed pain catastrophizing. The study demonstrated that both kinesiophobia and pain catastrophizing are associated ($p < 0.001$) and there is very strong positive correlation between the variables. (Coefficient of correlation $r = 0.86$)

Conclusion: A noticeably high frequency of pain catastrophizing and kinesiophobia has been observed in post-cesarean women with low back and pelvic pain. Gynecologists can enhance the recovery of these patients by counseling sessions and referring them to psychiatrists and physical therapists for addressing psychiatric issues and optimizing physical activity.

Keywords: Activities of daily livings (ADLs), Kinesiophobia, low back and pelvic pain (LBPP), pain catastrophizing, post-cesarean section

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Introduction

Low back and pelvic pain (LBPP) is considered to be a routine consequence of pregnancy. It is a very frequent complaint which is expected to disappear shortly after delivery. Studies report that at least half of the pregnant population experiences this painful condition.¹⁻³ LBPP

may persist after pregnancy and its prevalence ranges, from 5% to around 40% after six months of delivery.⁴⁻⁶ Persistent low back pain has also been reported by 20% of women even after three years of pregnancy.⁷

Although, the etiology of LBPP in post-partum women

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is not completely understood, but there are number of biomechanical, hormonal and psychological factors that are associated with this gynecological problem, which has affected millions of women worldwide.⁸ Among these, biomechanical and hormonal changes of pregnancy are almost reversed by three months post-cesarean; consequently, the psychological factors are considered to play a key role in decreased physical activity level and resulting disability in these women.

Pain catastrophizing, which is an exaggerated negative orientation towards noxious stimuli, is a psychological behavior, characterized by severe exacerbation of signs and symptoms of pain. It has been reported that women who catastrophizing about labor pain in pregnancy, experience more intense pain during labor.⁹ Similarly, such women also face delayed post-cesarean recovery in activities of daily livings (ADLs). Catastrophizing has been suggested as a precursor of pain-related fear as it can develop a fear of body movements, and inevitable negative behavior toward physical activities.¹⁰

In addition to pain catastrophizing, several other psychological factors, e.g. kinesiophobia also contribute to decrease or sub-optimal physical activity in post-cesarean women. Literature proves that due to kinesiophobia or fear of movement, pregnancy-related LBPP did not resolve, despite the pregnancy being over.¹¹

It is evident from the recent literature that lack of early mobility and physical activity in post-cesarean women increases the risk of LBPP and other post-operative complications both catastrophizing and kinesiophobia may play an active role in the transition of acute to chronic pain and these risks could be minimized by timely identification and management of pain catastrophizing in post cesarean women. The aim of the study is to determine the frequency of pain catastrophizing and kinesiophobia and the possible relation between them in post caesarean females with low back and pelvic pain in Lahore, Pakistan. Hypothetically, the patient with increased pain catastrophizing would be presenting with elevated level of kinesiophobia

Methodology

This descriptive cross-sectional study was conducted within 6 month duration, from March 2017 to August 2017, after getting permission from the ethical committees of concerned institutes. The data was collected from four different hospitals of Lahore

including Sheikh Zayed hospital, Orthopedic Medical Complex (OMC), Omar Hospital and Ch. M. Akram Teaching & Research Hospital. Convenient sampling technique was used to select a sample of 138 post-cesarean females who came with the complaint of low back and pelvic pain in out-patient departments (OPDs) of gynecology & obstetrics within 6 months of delivery. Primary & secondary parous females, aged between 20 to 40 years, were included in the study. All included patient were able to walk and carry out activities of daily living independently. Females with recent trauma, surgery (other than C-section) or any other diagnosed musculoskeletal, inflammatory, neurological and infectious disease were excluded. Pain catastrophizing and kinesiophobia were determined in patients by using pain catastrophizing scale (PCS) and Tampa scale of kinesiophobia (TSK) respectively. Tampa scale of kinesiophobia was used to determine the fear of movements. It has 17 items; each item is expressed in 4 points (0, 1, 2 & 3) ordinal scale. The sensitivity and specificity of TSK are 0.95 and 0.97 respectively, and total score ranges between 17 and 68 with a cutoff value of 37.¹²⁻¹⁴ A score of 37 or above is an indication of kinesiophobia.¹⁵ Pain catastrophizing scale was used to measure the feeling and thinking of patient about pain. The test-retest reliability of PCS for a patient of LBP is 0.87. It has 13 items each item is measured in 5 points (0, 1, 2, 3 & 4) ordinal scale. Total score of PCS, ranges from 0 to 52 with cut-off value of 30. A score of 30 or above shows the presence of pain catastrophizing.¹⁶ An informed written or verbal consent was taken from the participant before including them in the study.

Statistical Procedure: The data was analyzed through SPSS v21. Categorical variables are expressed in percentages and frequencies whereas a mean and standard deviation is calculated for a continuous variable. The correlation coefficient (r) is calculated to determine the correlation between kinesiophobia and pain catastrophizing

Results

A total of 138 females with low back pain after C-section participated in the study. Age of participants ranged between 23 to 40 years with a mean and standard deviation of 36.57 and 6.64 years respectively. Out of total 138, 60 (43.5%) participants were from Sheikh Zayed Hospital, 38 (27.5%) from Ch. M. Akram Teaching and Research Hospital, 21 (15.2%) from Orthopedics Medical Complex and 19 (13.7%) from Omar Hospital & Cardiac Centre.

Out of 138 participants, 46% participants were having Kinesiophobia and 37% showed pain Catastrophizing behavior (Table I).

Table II is showing the correlation between kinesiophobia and pain catastrophizing. The mean score and SD of kinesiophobia in participants was 45.94±9.19 and pain catastrophizing was 34.63±9.55. The study demonstrated that both kinesiophobia and pain catastrophizing are associated ($p < 0.01$) and there is very strong positive correlation ($r = 0.869$) between the variables i.e. in patients with increased pain catastrophizing, kinesiophobia is also found to be raised

Variable		Frequency (n= 138)	Percentage
Kinesiophobia	Yes	64	46.3
	No	74	53.7
Pain Catastrophizing	Yes	51	36.9
	No	87	63.1

Variables	Mean	SD	p-value	Pearson correlation Coefficient (r)
Kinesiophobia Score (Tampa Scale)	45.9	9.1	<0.01	0.86
Pain Catastrophizing score (Pain Catastrophizing Scale)	34.6	9.5		

Discussion

The study was conducted to determine the frequency of kinesiophobia and pain catastrophizing in post-caesarean women as both these factors are associated with post partum LBPP.¹⁷ The study not only determined the frequency of pain catastrophizing and kinesiophobia in post-caesarean females but also succeeded in establishing a relationship between these variables

The study revealed that a noticeably high proportion of post-caesarean females with LBPP were found with pain catastrophizing (37%) and kinesiophobia (46%). The results of our study are comparable with the findings of

Olsson, C. who studied catastrophizing behavior in women with lumbopelvic pain during and after pregnancy and concluded that 44% women reported catastrophizing in week 19-21 of pregnancy, 51% had catastrophizing in week 34-37 of pregnancy and 32% reported catastrophizing at 6 month postpartum.¹⁸ A study by Olsson et al., in 2012 also showed high prevalence of pain catastrophizing (42.1%) in postpartum females.¹⁷ The mean PCS score of participants was 34.63 in our study. This indicates higher levels of exaggerated negative thoughts in them than in Swedish population where participants had a mean PCS score of 15.9.¹⁹ Gutke et al., in their study on postpartum women reported mean TSK of 33 after 3 months of delivery which is remarkably less than reported in our study i.e., 45.9.¹¹ The high score in our study explains why such strong relation was found between catastrophizing and kinesiophobia. The consequences of this high proportion could be understood by the results of a study by Parr, J.J et al, which stated that pain catastrophizing and kinesiophobia, both are associated with disability. They further suggested that timely assessment and treatment of these psychological conditions could reduce the chances of disability in these patients.²⁰

Picavet et al. in 2002 also identified pain catastrophizing and kinesiophobia as a risk factor of low back pain and associated disability. Findings of Picavet et al., augments our conclusion that in order to deal LBPP, we must priorities dealing with psychological and emotional factors.²¹ Similarly, Leeuw, M.,et al, in 2007 concluded that dealing with pain catastrophizing can reduce incidences low back pain.²²

The study also revealed the relation between pain catastrophizing and kinesiophobia. A strong positive relation between both variables in post-caesarean females suggests that with increasing pain catastrophizing behavior, kinesiophobia also increases. A study by Tichonova et al. also reported similar findings.²³ A study by Thomas et al. also augmented our finding and concluded that increased kinesiophobia has been reported in patients who have higher pain catastrophizing.²⁴

Limitations: Although the research has reached its aims, there were some unavoidable limitations. This study was conducted only on small size because of the limited time. Therefore, to generalize the results the study should have more participants.

Recommendations: The study focused on determining the frequency of kinesiophobia and pain catastrophizing and correlation between these

variables. Further studies should be conducted to explore the effects of these variables on LBPP in post partum women

Conclusion

A noticeably high frequency of pain catastrophizing and kinesiophobia has been observed among participants. Moreover, the strong positive correlation between kinesiophobia and pain catastrophizing suggest that with increasing pain catastrophizing, kinesiophobia also increases

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