

# A Comparative Study of Functional Activity and Kinesiophobia in Post LSCS Subjects

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**Abstract:** *This is a study to analyse the difference in functional activity and kinesiophobia levels in Postop LSCS subjects. Need of the study: This study is designed to analyze the functional ability & kinesiophobia in the immediate post operative phase and the time of discharge. Aim of the study: A study to analyse the difference in functional activity and kinesiophobia levels in post LSCS subjects on 3rd postop day and the day of discharge. Objectives and Methodology: This study analyzes the differences in functional activity and kinesiophobia in post LSCS patients. It evaluates these factors on the third postop day and at discharge, using the Functional Assessment Questionnaire FAQ and the Tampa Scale for Kinesiophobia TSK. Thirty women, aged 20 to 40, were evaluated. Results: Results show a significant increase in functional activity and a decrease in kinesiophobia from the third postop day to discharge  $p < 0.001$ . The findings indicate that patients experience better functional recovery and less fear of movement by the time they are discharged. Conclusion: The study's significance lies in providing insights into the rehabilitation of postLSCS patients, emphasizing the importance of monitoring functional activity and kinesiophobia to improve recovery outcomes.*

**Keywords:** Functional activity, Kinesiophobia, Post LSCS, Cesarean section, Tampa Scale

## 1. Introduction

Cesarean delivery is defined as the delivery of a fetus through surgical incisions made through the abdominal wall (laparotomy) and the uterine wall (hysterotomy) (1) (CDC, 2023). The most common indications for primary cesarean delivery include labor dystocia, abnormal or indeterminate fetal heart rate tracing, fetal malpresentation, multiple gestation, and suspected fetal macrosomia (8). Women who undergo caesarean section births experience more intense pain during activities and movements compared to women who give birth vaginally (2).

Consequently, females having caesarean section exhibit greater functional limitation for specific movements (2). Kinesiophobia is defined as an excessive irrational and debilitating fear of movement or physical activity (3). The fear of motion is associated with a feeling of vulnerability to injury in response to movement (3). A noticeably high frequency of pain and kinesiophobia has been observed in post cesarean women (4). Mostly within 4 to 8 weeks after the C - section one can do most of the regular activities.

## 2. Need of the Study

There are several studies which have focussed on Functional and Physical activities. There are few studies which have concentrated on kinesiophobia in antenatal & postnatal women. There is minimal literature available on physical functioning & kinesiophobia. Hence, this study is designed to analyze the functional ability & kinesiophobia in the immediate post operative phase & at the time of discharge.

## Aim of the Study

A study to analyse the difference in functional activity and kinesiophobia levels in post LSCS subjects on 3rd postop day and the day of discharge.

## Objectives:

- To Analyze the Functional activity level in Post LSCS subjects on 3rd Postop day through Functional Assessment Questionnaire.
- To Analyze the Functional activity level in Post LSCS subjects on the day of discharge through Functional Assessment Questionnaire.
- To Analyze the Kinesiophobia level in Post LSCS subjects on 3rd Postop day through TAMPA SCALE of Kinesiophobia (TSK).
- To Analyze the Kinesiophobia level in Post LSCS subjects on the day of discharge through TAMPA SCALE of Kinesiophobia (TSK).

## 3. Methodology

- **Study setup:** Department of Obstetrics and Gynaecology in SVIMS Hospital, Tirupati.
- **Study design:** Cross Sectional Study
- **Sampling method:** Convenience Sampling
- **Study duration:** Cases enrolling between April 2024 to July 2024.
- **Sample size:** 30

## Inclusive and Exclusive Criteria:

### Inclusive Criteria:

AGE: 20 to 40 years  
POST LSCS Subjects

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**Exclusive Criteria:**

- Subjects with Musculoskeletal disorders.
- Subjects with Neurological disorders.
- Subjects who are not willing to participate.

**Study Procedure:**

30 Subjects who underwent LCS and fulfilled the inclusion criteria were included in the study after obtaining an informed consent.

The Baseline measurement of Height, Weight, Body Mass Index (BMI), was evaluated.

The level of Functional Activity through the FUNCTIONAL ASSESSMENT QUESTIONNAIRE (FAQ) & Level of Kinesiophobia through the TAMPA SCALE OF KINESIOPHOBIA (TSK) was measured on the 3rd Postop Day & Reassessed at the Time of Discharge.

**Functional Assessment Questionnaire (FAQ)**

The Functional Activities Questionnaire (FAQ) is a collateral - report measure of difficulties in activities of daily living (5). The FAQ components are Mobility, Sitting, Getting Up, Walking, Personal Care, Fluid Intake, Food Intake, Sleep, Oral Care, Toileting, Child care (11 components).

**Abilities assessed on scale:**

Score: 0 to 3, 0 - Performance of activities without difficulty, 1 - Minimum difficulty, 3 - Inability / Necessary Help.

**Tampa Scale of Kinesiophobia (TSK)**

TSK is a self - reported questionnaire that quantifies fear of movement. (13)

The 17 item TSK total scores range from 17 to 68 where the lowest 17 means no or negligible kinesiophobia, and the higher scores indicate an increasing degree of kinesiophobia. (14, 15)

Scores above 37 (17 - item) are generally considered to indicate kinesiophobia. (6)

Score: 1 - Strongly Disagree, 2 - Disagree, 3 - Agree, 4 - Strongly Agree

**Statistical Analysis:**

The data was analyzed using the SPSS Vision 21 software. The baseline data was analyzed for homogeneity, all continuous data are presented us mean & standard deviation and a Paired T - test was used to analyze the data. A P - value of < 0.05 was considered statistically significant.

**4. Results**

**Baseline Descriptive Statistics**

	Mean	Std. Deviation
Age	26.97	5.03
BMI	26.77	6.36
FAS 3rd POD	18.63	5.13
TSK 3rd POD	48.30	4.20

The subjects included in the study were in the age group between 20 to 40 years, with a Mean 26.97±5.03 and a BMI of 26.77±6.36.

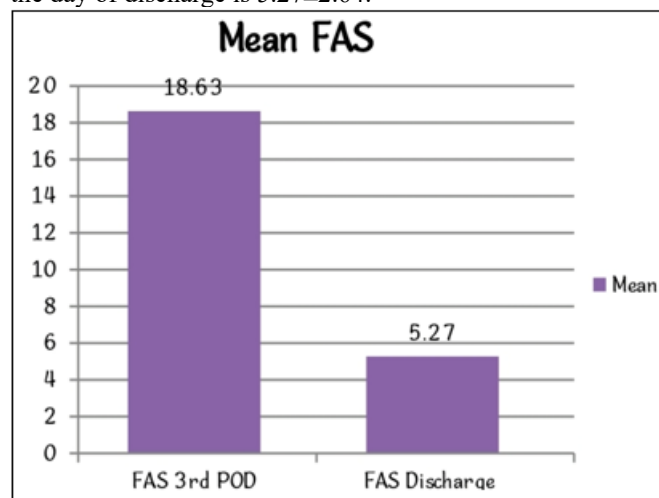
The Mean score for Functional Assessment Questionnaire for the subjects on the 3rd Post op day is 18.63±5.13.

The Mean score for Tampa Scale of Kinesiophobia for the subjects on the 3rd Post op day is 48.30±4.20.

Descriptive Mean of outcomes			
		Mean	Std. Deviation
	FAS 3rd POD	18.63	5.13
	FAS Discharge	5.27	2.64
	TSK 3rd POD	48.30	4.20
	TSK Discharge	40.90	4.85

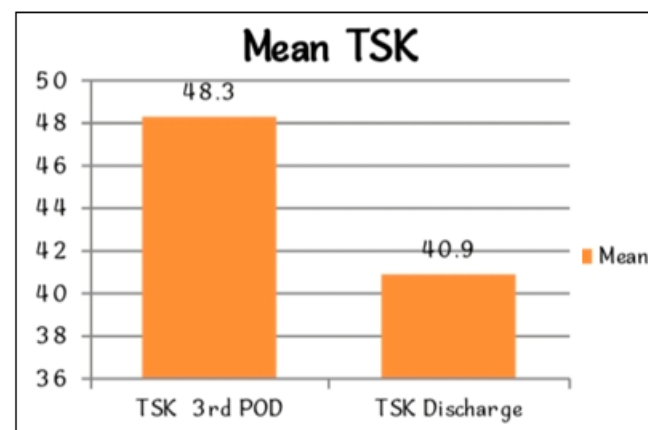
The Mean score of Functional Assessment Questionnaire on 3rd Post Op day is 18.13±5.13.

The Mean score of Functional Assessment Questionnaire on the day of discharge is 5.27±2.64.



The Mean score of Tampa Scale of kinesiophobia on 3rd Post Op day is 48.30±4.20.

The Mean score of Tampa Scale of kinesiophobia on the day of discharge is 40.90±4.85.



Paired Samples Test							
	Paired Differences					t	P < 0.05*
	Mean	Std. Deviation	95% Confidence Interval of the Difference				
			Lower	Upper			
FAS3 - FASd	13.367	5.163	11.439	15.294	14.181	0.001**	
TSK3 - TSKd	7.400	4.239	5.817	8.983	9.561	0.001**	

\*The mean is significant at the 0.05 level

\*\* The mean is significant at the 0.001 level

A Paired T - test was used to compare the level of functional activity and Kinesiophobia. The difference between Functional activity level and Kinesiophobia on 3rd Post Op day and at the time of discharge was analyzed.

The difference in the functional activity level on 3rd & the day of discharge was  $13.367 \pm 5.163$  (11.44, 15.29) & the t - value of 14.18 with the significance level of  $P < 0.001$ , which indicates a higher level of functional activity at the time of discharge.

The difference in the Kinesiophobia on 3rd & the day of discharge was  $7.400 \pm 4.239$  (5.817, 8.983) & the t - value of 9.561 with the significance level of  $P < 0.001$ , which indicates decreased level of kinesiophobia at the time of discharge.

There is a significant difference in functional activity levels at the 3rd Post Op day and at the time of discharge.

There is a significant decrease in the kinesiophobia levels between the 3rd Post Op day and at the time of discharge.

## 5. Discussion

The present study concludes that in LSCS women the functional activity levels increases at the day of discharge compared to 3rd postop day and the kinesiophobia level decreases at the day of discharge compared to 3rd postop day.

A total of 30 women between the age group 20 to 40 years were included in the study. The difference between functional activities and kinesiophobia levels in LSCS women on 3rd Postop day and at the day of discharge showed a statistical significance with  $P < 0.001$ .

According to Brittany N Rosenbloom at al., (2020), Fear of movement in children and adolescents undergoing major surgery: A psychometric evaluation of the Tampa Scale for Kinesiophobia. The 17 item Tampa Scale for Kinesiophobia (TSK) does not show adequate validity or reliability in youth undergoing major surgery, however, the psychometric properties of a 13-item modified scale (TSK-13) are promising. (9)

According to Barnabas Alayande at al., (2023), Functional recovery after cesarean delivery: This study is one of a few assessing the overall functional status of c - section patients a month after surgery in LMICs. They found a high proportion of poor functionality at discharge, which was sustained through the first month. (10)

A study done by Hassan Rexa Mohammadi at al., (2023) Comparison of Pain Intensity, Fear of Movement, and Disability Before and After Lumbar Spine Surgery. The population under study included all patients undergoing LSS.

Considering that LSS can effectively reduce patients pain intensity, disability, and fear of movement, this intervention is recommended for patients who need surgery according to relevant diagnostic criteria and clinical examination findings. (11)

A study done by Thalita R. C. Pereira at al., (2017) Implications of pain in functional activities in immediate postpartum period. In this study women's complaints about pain in the immediate postpartum of vaginal delivery and cesarean section was identified. The highest number of complaints was associated with movement activities and cesarean section postpartum. There was no relationship between functional limitations and parity in this study. (12)

In our study there was a significant increase in functional activity and a significant decrease in kinesiophobia in Postop LSCS subjects.

## 6. Limitations

The sample size is smaller.  
Observer bias and limited generalizability.

## 7. Future Recommendations

The future study is recommended with a large sample size and use Interventional study to evaluate therapeutic measures on outcomes by assigning participants to treatment and by comparing the difference between Functional activity and Kinesiophobia in Postop LSCS subjects.

## 8. Conclusion

The study concludes that functional activity improves significantly, and kinesiophobia decreases between the third postop day and discharge in LSCS patients. These findings highlight the importance of targeted interventions to enhance recovery and alleviate fears related to movement postsurgery.

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