



# “Effect of yoga therapy among postnatal mothers with lower segment caesarean section in selected areas”

<sup>1</sup>Ms. Ashwini Ashok Kharat, <sup>2</sup>Mrs. Martha Raut, <sup>3</sup>Dr. Rupali Salvi, <sup>4</sup>Dr. Nisha Naik

<sup>1</sup>M. Sc. Nursing Student, <sup>2</sup>Associate Professor, <sup>3</sup> Professor & Principal,

<sup>4</sup>Associate Professor & Research Coordinator

<sup>1</sup>Dr. D. Y. Patil College of Nursing, D. Y. Patil Vidyapeeth, Pimpri, Pune – 411018

<sup>2</sup>Dr. D. Y. Patil College of Nursing, D. Y. Patil Vidyapeeth, Pimpri, Pune – 411018

<sup>3</sup>Dr. D. Y. Patil College of Nursing, D. Y. Patil Vidyapeeth, Pimpri, Pune – 411018

<sup>4</sup>Dr. D. Y. Patil College of Nursing, D. Y. Patil Vidyapeeth, Pimpri, Pune – 411018

## Abstract:

**Introduction:** Childbirth is one of the most marvellous and memorable experience in a woman's life. It does not really matter if the child is the first, second or the third one. Each experience is unique and calls for a celebration. This study has been undertaken to investigate the effect of yoga therapy among postnatal mothers with lower segment caesarean section

**Aim:** 1. To find out the low back pain level among the postnatal mothers with lower segment caesarean section. 2. To determine the effect of yoga therapy among the postnatal mothers with lower segment caesarean section. 3. To find out association between low back pain levels associated with lower segment caesarean section with selected demographic variables.

**Methods and Material:** Quantitative research approach was used and True – experimental pre-test post-test control group design was chosen for this study. Purposive sampling method was used. The samples were 60 postnatal mothers with lower segment caesarean section from the selected areas. Visual analog Scale was used to check the existing level of low back pain.

**Results:** The study revealed that the level of pain among the postnatal mothers with lower segment caesarean section reduced significantly after receiving yoga therapy.

**Conclusion:** This study concludes that yoga therapy is effective in reducing backpain associated with lower segment caesarean section. This is cost effective and can be included as a post LSCS routine for reducing backpain among mothers during post natal period.

**Keywords:** Yoga Therapy, LSCS, Back pain, Effect.

## I. INTRODUCTION

Lower Segment Caesarean section (LSCS) is a surgical intervention which is carried out under spinal or epidural anesthesia to ensure safety of mother and child when vaginal delivery is not possible or when the doctor consider that the danger to the mother and baby would be greater with a vaginal delivery. Proportion of caesarean section to the total births is considered as one of the important indicators of emergency obstetric care (World Health Organization, 2009). Low back pain is pain felt in the back that usually originates from the muscle, nerves, bone, joint or other structure in the joint. During the last decade there

has been two to three fold rises in the incidence from the initial rate of about %. Spinal anesthesia is preferred for its safety.<sup>1</sup>

One of the most beautiful time periods during a women's life is the pregnancy period because her life will be fulfilled only by giving birth to her baby. For that she will be ready to suffer all the pains during vaginal delivery and caesarean section with full happiness. A miracle is really the only way to describe motherhood and giving birth after her caesarean section. It's unbelievable how God has made women and babies to endure and be able to do so much. A miracle, indeed. Such an incredible blessing.<sup>2</sup>

The World Health Organization (WHO) recommends the rate of caesarean section delivery to be 10-15%, whereas the number was 17.2% for India during the period between January 2015 and December 2016. According to researcher Karen (2014) yoga, stretching may ease lower back pain.<sup>3</sup>

A randomized controlled trial for assessing effect of yoga therapy on low back pain among postnatal mothers in Sweden was conducted. 30 Samples were used divided into two groups viz. experimental group and control group. The result found that effectiveness of yoga therapy was 94% in the experimental group and 70% in the control group. Subject retention rates at the completion of the 12-week intervention were 81% in the yoga group and 77% in the control group. Patients in the yoga (N = 7) and control (N = 6) groups both reported positive feedback for their respective study interventions. The results of the study revealed yoga therapy was found to be very effective in reducing pain among postnatal mothers.<sup>4</sup>

A cross sectional study was conducted to find out the prevalence of caesarean section rate in East Delhi. Researcher collected data from 30 medical colleges by using semi open ended Performa to know the incidence of the caesarean section. This study data collection was done for period for one month by this time period Results revealed that among 200 deliveries 144 were caesarean & remaining were vaginal deliveries. In that 54.9% were emergency caesarean and 45% were elective caesarean. According to WHO 32.6% of caesarean section has been documented from Chennai in (2016).<sup>5</sup>

A randomized trial comparing yoga, stretching and physical exercises (walking) for chronic low back pain was conducted with total of 228 postnatal LSCS mothers with chronic low back pain provide yoga for 12 weeks for (92 patients) and conventional stretching exercises (91 patients) and a walking (45 patients). Back-related functional status (modified Roland Disability Questionnaire, a 23-point scale) Outcomes were assessed at baseline, 6, 12, and 26 weeks by interviewers unaware of treatment group. Adjustment for baseline values, 12-week outcomes for the yoga group were superior to those for the self-care group (mean difference for function, -2.5 [95% postnatal mothers, -3.7 to -1.3];  $P < .001$ ; mean difference for symptoms, -1.1 [95% postnatal mothers, -1.7 to -0.4];  $P < .001$ ). At 26 weeks, function for the yoga group remained superior (mean difference, -1.8 [95% postnatal mothers, -3.1 to -0.5];  $P < .001$ ). The study concluded that yoga therapy was an effective in significantly reducing the intensity of pain among postnatal mothers with LSCS.<sup>6</sup>

A systematic review of randomized clinical trials to assess the effectiveness of yoga therapy as a treatment option for low back pain among postnatal mothers. Seven databases were searched from their inception to March 2011. Seven randomized controlled clinical trials (RCTs) met the inclusion criteria. Their methodological quality ranged between 2 and 4 on the Jadad scale. The result found that pain score reduced by 27.5% in the exercise group and by 8.2% in the control group. scale scores for pain also reduced in the exercise group compared with the control group ( $p < 0.05$ ). This review of five RCTs suggested that yoga has a positive and accomplishable effect to diminish low back pain and improve function and concluded that yoga signified a greater reduction in low back pain among postnatal mothers.<sup>7</sup>

An experimental study designed to assess the effect yoga therapy on post caesarean mother with low back pain. study with pre and post test design. a total of 60 samples was assigned 30 in experimental and control group the researcher assessed the overall pain during postnatal period by visual analogue scale and also recorded any complications since the complimentary therapy was adequate which when combined with yoga therapy was found to be very useful in reducing pain and in terms of the safety of the mothers with LSCS. after intervention result found pain score reduced by 24.5% in the exercise group and by 6.9% in the control group. visual analogues scale scores for pain also reduced in the exercise group compared with the

control group ( $p < 0.05$ ). the study revealed that those mothers who were exposed to yoga therapy experienced significantly less pain perception compared with the control group.<sup>8</sup>

A randomized controlled trial was conducted in neighborhood of Boston, Massachusetts with 40 samples to assess the feasibility of yoga therapy on postnatal caesarean mothers with chronic low back pain. by using Primary efficacy outcomes were changes from baseline to 12 weeks in pain score (0=no pain to 10=worst possible pain) and back-related function using the modified Roland-Morris Disability Questionnaire (0-23 point scale, higher scores reflect poorer function). The result found that 97% at 12 weeks. Mean pain scores for yoga decreased from baseline to 12 weeks (6.7 to 4.4). greater overall improvement (73% vs 27%,  $P = .03$ ). the study concluded that yoga therapy was an effective in significantly reducing the intensity of pain among post caesarean mothers.<sup>9</sup>

## II. Material and Methods

### RESEARCH DESIGN

In this study Quantitative research approach was used and True – experimental pre-test post-test control group design was used to assess the effect of yoga therapy among postnatal mothers with lower segment caesarean section.

### SETTING

The setting of the study was postnatal ward of Dr. D. Y. Patil Hospital.

### SAMPLE

The sample selected for present study comprised of the postnatal mothers with low back pain who underwent LSCS in Dr. D. Y. Patil Hospital.

### INSTRUMENT

In this study, the tool consisted of following:-

- **Demographic Variables:** This includes questions which obtain information regarding demographic data such as age, weight, family, education, work, family income, religion, years of marriage, no. of children, no. of caesarean section, measures taken to relieve low back pain etc

- **Visual Analogue Scale (VAS)**

The visual analog scale (VAS) was a validated, subjective measure for acute and chronic pain. Scores are recorded by making a handwritten mark on a 10-cm line that represents a continuum between “no pain” and “worst pain. VAS scored in post- surgical mothers who described their postoperative back pain intensity as none, mild, moderate, or severe.

#### Scoring Key:

**Score 0** - No pain

**Score 1-3** - Mild pain

**Score 4-5** - Moderate pain

**Score 6-7** - Severe pain

**Score 8-9** - Very severe pain

**Score 10** - Worst pain

- **Yoga Therapy:**

In this study yoga therapy was provided to the postnatal mothers with low back pain with lower segment caesarean section and was started after 6 weeks of delivery. It included 4 aspects to reduce low back pain associated with LSCS. Pranayama for (5 min), Pratyahara (5 min), asanas (10 min) and meditation (10 min.) It was instructed twice a day and pain levels were assessed on 15<sup>th</sup> day.

### Intervention

The samples were selected considering inclusion & exclusion criteria. The researcher introduced herself to the subjects, assurance of confidentiality was given to the subjects and consent was obtained from them. Socio-demographic data was collected from each subject. Pre-test was conducted for both the groups using Visual Analogue Sale (VAS). Yoga therapy was provided twice a day to the samples in experimental group. Post-Test data was collected from both groups on 15<sup>th</sup> day using VAS.

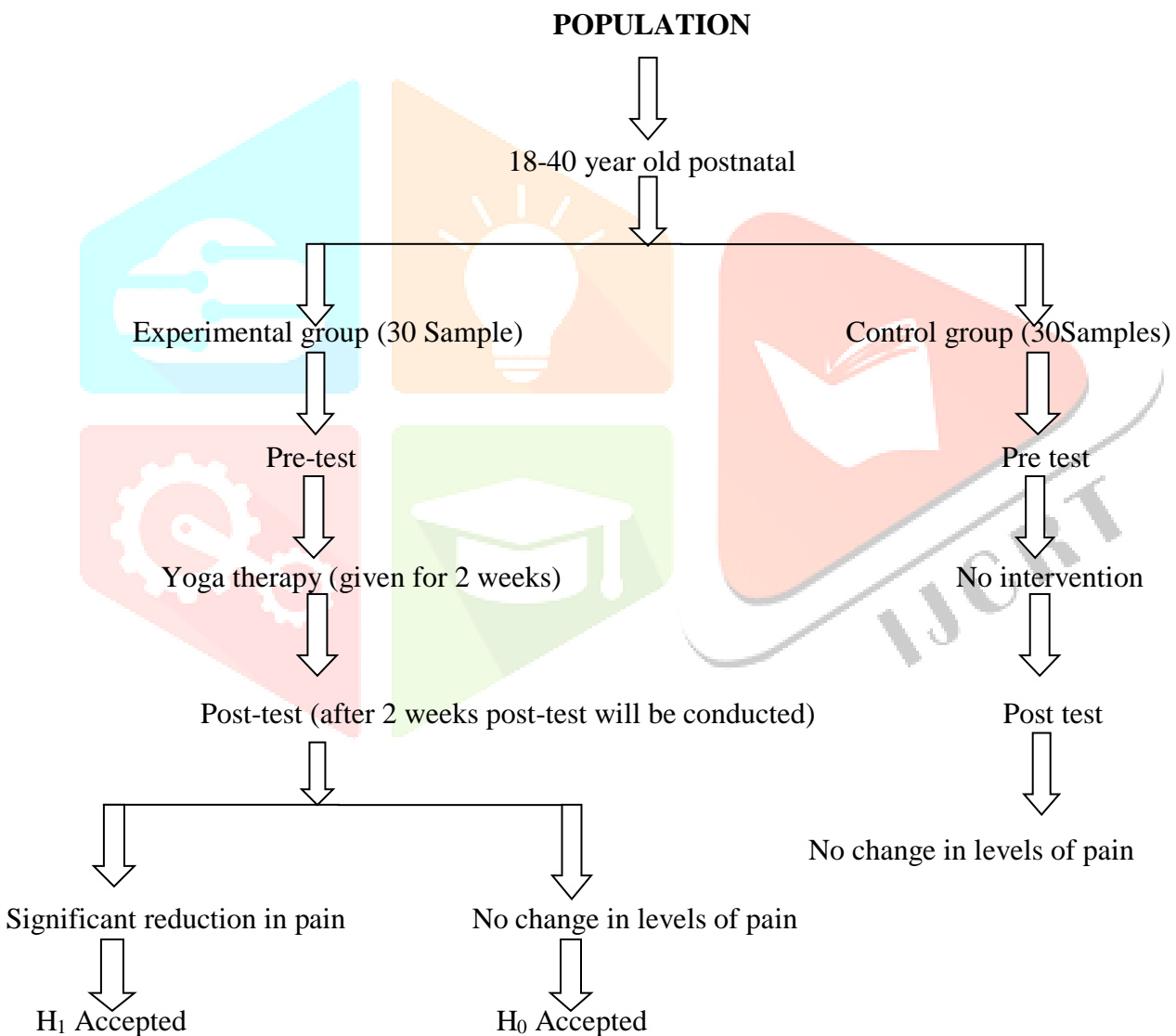
### Ethical consideration

The research study was carried out after obtaining permissions of Sub Ethical Committee (DYPV / CON/ 523/ 2020), Research & Recognition Committee (DPU / 656 / - 2 / 2020) of Dr. D. Y. Patil Vidyapeeth Pune.

### Data Collection

After obtaining administrative permissions from hospital data was collected from 13.03.2021 - 24.03.2021

### SCHEMATIC DIAGRAM



**Figure 1: Schematic diagram showing procedure for data collection**

Figure 1 depicts the step by step procedure followed during the study for collection of data.

### III. DATA ANALYSIS

Descriptive and analytical statistics were done. The data is represented in mean and standard deviation. The association of the level of low back pain associated with LSCS Fisher's exact test. The paired sample t-test and two sample t test were used to check to mean differences. The level of significance was kept at  $p < 0.05$ . The software used was R Software.

### RESULTS

**Table 1: Description of samples (postnatal mothers) based on their personal characteristics in terms of frequency and percentages.**

Sr. No.	Demographic variables	Experimental Group		Control Group	
		Freq	%	Freq	%
1.	<b>Age</b>				
	18-23 years	4	13.3%	7	23.3%
	24-28 years	16	53.3%	9	30.0%
	29-33 years	9	30.0%	13	43.3%
	34-40 years	1	3.3%	1	3.3%
2.	<b>Weight in kg</b>				
	31- 40 kg		0.0%	1	3.3%
	41-50 kg	7	23.3%	12	40.0%
	51-60 kg	15	50.0%	12	40.0%
	61-70 kg	8	26.7%	5	16.7%
3.	<b>Education</b>				
	Primary	2	6.7%	1	3.3%
	Secondary	4	13.3%	5	16.7%
	Higher	10	33.3%	15	50.0%
	Graduate and above	14	46.7%	9	30.0%
4.	<b>Type of work</b>				
	Home maker	10	33.3%	10	33.3%
	Private	12	40.0%	12	40.0%
	Government	3	10.0%	2	6.7%
	Own business	5	16.7%	6	20.0%
5.	<b>Family income in rupees</b>				
	5001-10,000 /-	2	6.7%	3	10.0%
	10001 – 20,000 /-	23	76.7%	20	66.7%
	Above Rs.20,000 /-	5	16.7%	7	23.3%
6.	<b>Years of marriage</b>				
	< 1 year	4	13.3%	3	10.0%
	2-3 years	10	33.3%	13	43.3%
	4-5 years	9	30.0%	2	6.7%
	>5 years	7	23.3%	12	40.0%
7.	<b>No. of children</b>				
	One	19	63.3%	18	60.0%
	Two	9	30.0%	9	30.0%
	Three	1	3.3%	3	10.0%

	More than 3	1	3.3%		0.0%
<b>8.</b>	<b>No. of caesarean section</b>				
	1 <sup>st</sup>	24	80.0%	19	63.3%
	2 <sup>nd</sup>	6	20.0%	11	36.7%
<b>9.</b>	<b>Measures taken to relieve low back pain</b>				
	Position	13	43.3%	12	40.0%
	Medication (pain killer)	4	13.3%	9	30.0%
	Hot application	4	13.3%	6	20.0%
	Any other	9	30.0%	3	10.0%

Table 1, describes the demographic details of the samples involved in the study in terms of frequencies & percentages.

**Figure 2: Low back pain level among the postnatal mothers with lower segment caesarean section**

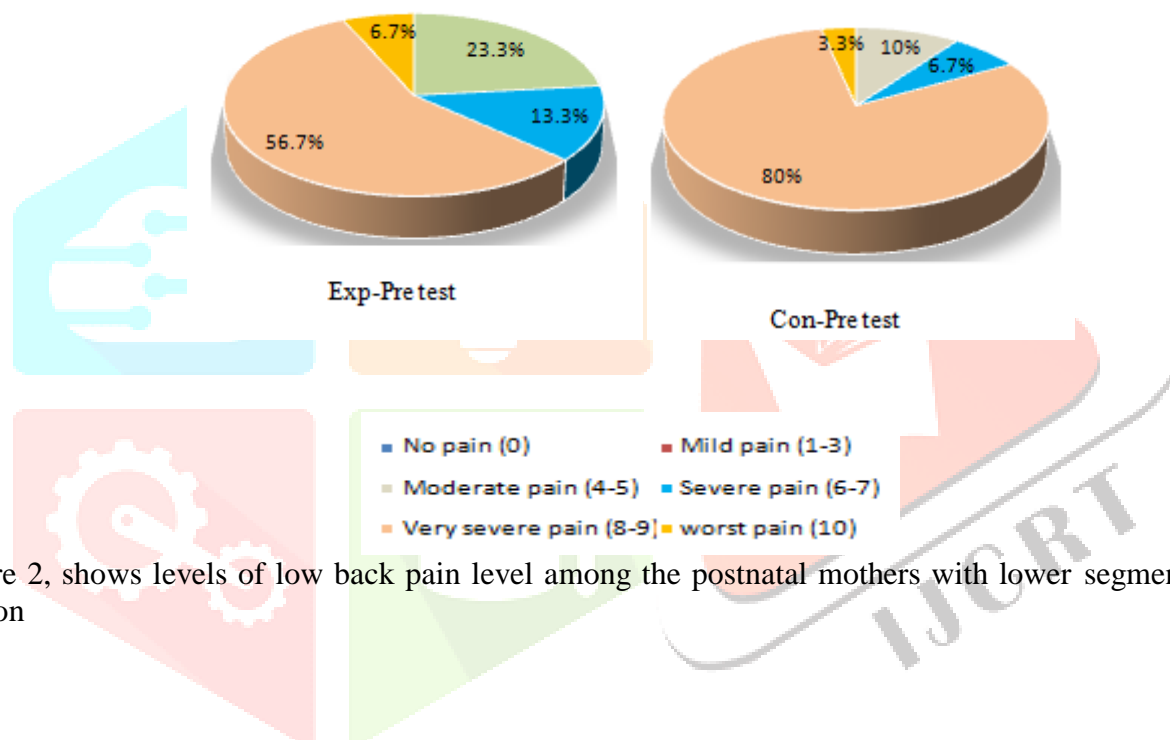


Figure 2, shows levels of low back pain level among the postnatal mothers with lower segment caesarean section



**Figure 3: Effect of yoga therapy on backpain associated with LSCS among postnatal mothers (Comparison between experimental group and control group)**

N=30, 30

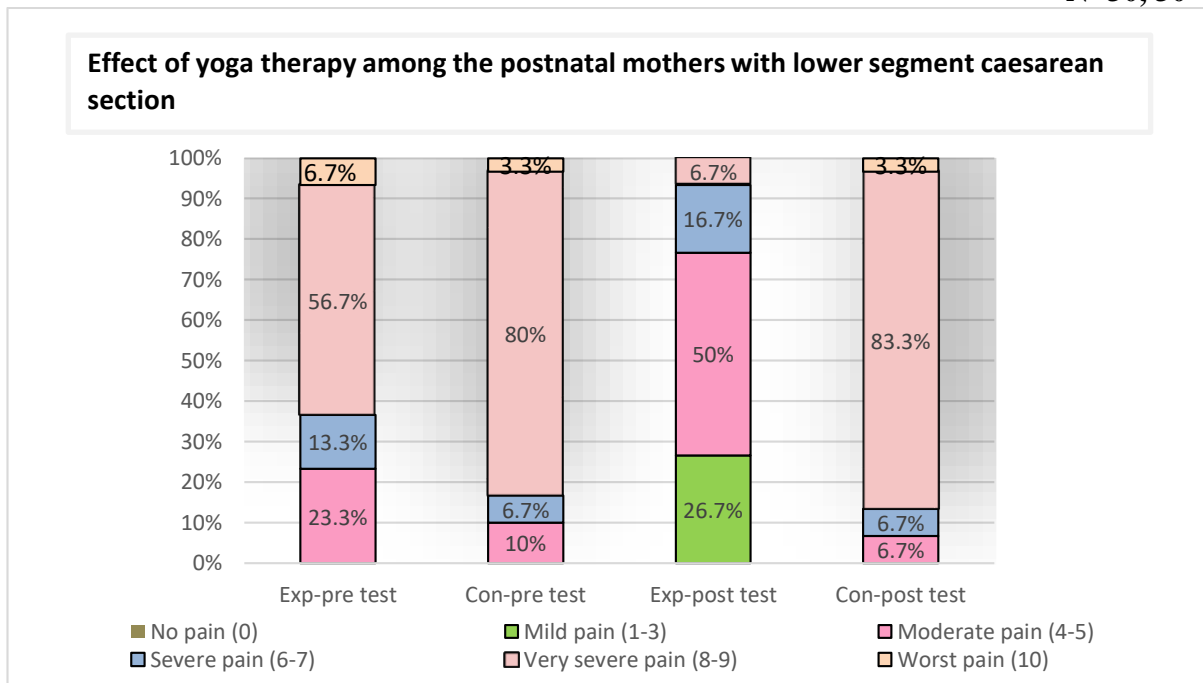


Figure 3 shows the effect of yoga therapy on levels of low back pain among experimental group and control group.

**Table 2: Paired t-test for the effect of yoga therapy among the postnatal mothers with lower segment caesarean section**

N=30

	Mean	SD	T	Df	p-value
Pretest	6.9	1.6	25.3	29	0.000
Posttest	4.3	1.4			

Table 2 describes the changes in the pretest and post test levels of pain.

**Table 3: Two sample t-test for the comparison of change in pain score among the postnatal mothers with lower segment caesarean section in experimental and control group**

N=30, 30

Group	Mean	SD	T	Df	p-value
Experimental	2.6	0.6	16.66	58	0.000
Control	0.0	0.6			

Table 3 shows that it is evident that the pain among the postnatal mothers with lower segment caesarean section improved significantly after yoga therapy.

**Table 4: Fisher's exact test for the association between low back pain level among the postnatal mothers with lower segment caesarean section with selected demographic variables**

N=30

Sr. No.	Demographic variables		Level of low back pain						p-value
			No pain	Mild	Moderate	Severe	Very severe	Worst	
1.	Age	18-23 years	0	0	2	2	6	1	0.949
		24-28 years	0	0	5	2	17	1	
		29-33 years	0	0	3	2	16	1	
		34-40 years	0	0	0	0	2	0	
2.	Weight in kg	31- 40 kg	0	0	0	0	1	0	0.859
		41-50 kg	0	0	5	1	12	1	
		51-60 kg	0	0	4	3	18	2	
		61-70 kg	0	0	1	2	10	0	
3.	Education	Primary	0	0	1	1	1	0	0.334
		Secondary	0	0	1	2	5	1	
		Higher	0	0	4	1	18	2	
		Graduate & above	0	0	4	2	17	0	
4.	Type of work	Home maker	0	0	2	3	13	2	0.843
		Private	0	0	5	1	17	1	
		Government	0	0	1	1	3	0	
		Own business	0	0	2	1	8	0	
5.	Family income in rupees	5001-10,000 /-	0	0	3	0	2	0	0.246
		10001 – 20,000 /-	0	0	6	4	30	3	
		Above Rs.20,000 /-	0	0	1	2	9	0	
6.	Years of marriage	< 1 year	0	0	1	1	4	1	0.896
		2-3 years	0	0	5	2	15	1	
		4-5 years	0	0	1	2	8	0	
		>5 years	0	0	3	1	14	1	
7.	No. of children	One	0	0	7	4	24	2	0.828
		Two	0	0	2	1	14	1	
		Three	0	0	1	1	2	0	
		More than 3	0	0	0	0	1	0	
8.	No. of caesarean section	1 <sup>st</sup>	0	0	8	5	28	2	0.871
		2 <sup>nd</sup>	0	0	2	1	13	1	
9.	Measures taken to relieve low back pain	Position	0	0	4	3	16	2	0.917
		Medication	0	0	3	1	9	0	
		Hot application	0	0	2	0	7	1	
		Any other	0	0	1	2	9	0	

Table 4 shows that p-values corresponding to all the demographic variables were large (greater than 0.05), none of the demographic variables was found to have significant association with the lower back pain among postnatal mothers with lower segment caesarean section.

#### IV. CONCLUSION

From the results of the study, it is concluded that yoga therapy to the postnatal mothers with lower segment caesarean section was effective in reducing the low back pain. This yoga therapy was not only cost effective but also easy to follow. The postnatal mothers with lower segment caesarean section can include this therapy in their routine activities. The overall experience of conducting this study was a satisfying one, as there was good cooperation from postnatal LSCS mothers.



## V. RECOMMENDATIONS

The study has the following recommendations.

1. A similar study can be done on a large sample size for the better generalization.
2. A study can be done to investigate benefits of alternative and complimentary therapy on low back pain and postnatal complications during postnatal period.
3. A similar study can be conducted on knowledge, attitude and beliefs of home remedies in relieving the pain.
4. The study can be conducted in different settings.
5. A study can be comparison study between yoga therapy and other non – pharmacological methods can be done.

## VI. ACKNOWLEDGEMENT

Authors acknowledge the immense support received from Dr. D. Y. Patil College of Nursing and Dr. D. Y. Patil Hospital staff and post natal mothers for completing this study. Authors are grateful for the help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also thankful to authors/ editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

**Source of Funding:** None

**Conflict of Interest:** None

**Authors' Contribution:** All the authors have contributed to the planning, implementation and analysis of the research study and its presentation in the form of the manuscript.

## REFERENCES

1. Warner J. Web MD health News. Yoga, stretching may ease lower back pain. Archives of internal medicine.oct,25,2011. <http://www.webmd.com/backpain/news/2011.1125/yoga-stretching-may-ease-lower-back-pain>.
2. Thenmozhi P. ,SSRG International Journal of Nsuring and Health Science (SSRGIJHS)- volume 2 Issue 2016 original Research Article.ISSN:2454-7484. Therapy on Chronic Low Back Pain. Published in final edited form as: [www.internationaljournalsrg.org](http://www.internationaljournalsrg.org).
3. Abbassi S, Hamid H, Ahmed Z, & Fauzia Haq N. prevalence of low back pain experienced after delivery with & without epidural analgesia:2014 Mar-Apr; 58(2): 143- 148.doi:10.4103/0019-5049.130814.PMCID:PMC4050929.
4. Selma C Holden assess effect of postnatal yoga on low back pain among multipara mothers, Rajasthan, Journal of EMDR Practice and Research, march (2019) <https://connect.springerpub.com/content/sgremdr/early/2020/03/16>
5. Brar NK,Rawat HC.textbook of Advanced Nursing Practice. First edition.New Delhi India:Jaypee publication;2015.
6. Karen j. Sherman comparing yoga, stretching, and a self-care book for chronic low back pain, National library of medicines, 2016 may. <https://pubmed.ncbi.nlm.nih.gov/16365466/>

7. Posadzki P and Ernst E. [2011 Prevalence of complementary and alternative to assess the effectiveness of yoga as a treatment option for low back pain, selected maternity hospital, Europe National library of medicine. June 2011 <https://pubmed.ncbi.nlm.nih.gov/21590293/>
8. Sharon Dakel To Assess The Effect Yoga Therapy On Post Caesarean Mother With Low Back Pain Selected Hospital, Pudukkottai, National Library Of Medicine. April .2014.  
<https://www.researchgate.net/publication/26850462223456>
9. Robert B Saper (2014) Assess the feasibility of yoga therapy on postnatal mothers with chronic low back pain in neighbourhood of Boston, International Journal of Obstetrics and Gynaecological Nursing 2014.

