



Original Research Article

## **A Study to Assess the Effectiveness of Early Ambulation on Selected Aspects of Post Operative Recovery among the Women Who Have Undergone LSCS at Krishna Hospital, Karad**

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### **ABSTRACT**

**Background:** Women and children are our nation's greatest assets. Birth of the baby is a delightful experience for mother and the whole family which can occur either by normal vaginal delivery or by caesarean section. Early ambulation after caesarean section is to be encouraged in order to have fast recovery.

#### **Objectives:**

- To assess the effect of early ambulation on activities of daily living among the women who have undergone LSCS.
- To assess the effect of early ambulation on sense of well-being among the women who have undergone LSCS.
- To find the association between early ambulation on post LSCS women with selected demographic variables.

**Materials and Methods:** The study was conducted on post LSCS women at maternity ward of Krishna Hospital, Karad, by taking 30 each samples in both experimental and control group using Random sampling technique. Early Ambulation was the independent variable and the dependent variable was post-operative recovery. Data were collected, tabulated and analysed in terms of objectives of the study using descriptive and inferential statistics.

**Results:** In experimental and control group, majority of the subjects belong to the age group of 21-25, majority had their secondary education, maximum number from both groups were housewife. Maximum percentage of mothers in experimental (36.66%) and control (53.33%) were primi para. On the other hand, 63.33% of subjects in the experimental group and 46.66 % of subjects in the control group had their history of previous labour. Starting from the postoperative day, ambulation was given till 4<sup>th</sup> day and it was found that mean scores of experimental group were more when compared with control group, where, at 25-48 hours, the difference in mean scores of activities of daily living and sense of well-being was 8.83 and 3.84 respectively. Thus it indicates that early ambulation improves the activities of daily living and sense of well-being.

**Conclusion:** The study concluded that early ambulation improves the activities of daily living and there by helps to achieve a good sense of well-being.

**Key Words:** Early ambulation, LSCS (lower segment caesarean section), activities of daily living, sense of well-being.

## INTRODUCTION

A Caesarean section is a surgical procedure in which incisions are made through a mother's abdomen and uterus to deliver one or more babies. It is usually performed when a vaginal delivery would put the baby's or mother's life or health at risk; although in recent times it has been also performed upon request for childbirths that would otherwise have been natural. [1]

Early mobilization is a widely practiced and important component of postoperative care following open upper abdominal surgery. Its benefits were first reported in the 1940s when early mobilization was observed to hasten recovery and reduce the incidence of postoperative pulmonary complications. Early mobilization include: moving in bed, sitting out of bed, and standing, ambulating on the spot, hallway ambulation, and low intensity exercise. [2]

Early ambulation helps the client to meet outcomes of measurably muscle mass strength and ability to independently move all joints through complete range of motion. Other measure important to the client impaired physical mobility requires interventions that help client become increasingly able to move about in the environment. This increasing level of movement is termed progressive mobilization and includes such activities as "dangling" at the side of the bed, transferring from bed to chair or wheel chair, walking a measurable distance. [3]

The 1st or 2nd days of minimal movements and gentle turning: Patients will be advised to undergo slow mobilization within their limit and depending on the

surgical interventions as well as patient state. Early ambulation arise from the fact that, tissue recovery as well as returning of normal day-to-day functions would depend on the movements that takes place at the phase of post operative recovery. Thus knowing what benefits will bring would be useful in being motivated to do so even with significant of discomfort of this time. [4] In the immediate postoperative period, the woman is monitored for evidence of uterine atony, excessive vaginal or incision bleeding, and oliguria.

Maternity nursing offers a great rehabilitative and educative programme. Health of mother is the health of the country. Hence the role of a nurse is to identify areas where health promotion, illness prevention, rehabilitation or treatment is needed. The nurse evaluates each mother individually and plan rehabilitative programme accordingly.

### *Need For Study*

Since the 1970s, many developed countries have experienced substantial growth in the rates of caesarean section. Some mothers and physicians opt for C-sections just so the timing of the birth is convenient for one or both..

Early ambulation is one of the important aspect of early recovery of patients who undergone abdominal surgery without any complications. Early ambulation reduces the post operative complications such as atelectasis, hypo static pneumonia, gastrointestinal discomfort and circulatory problems. Ambulation increases ventilation and reduces the stasis of bronchial secretions in the lung. It also reduces the post operative abdominal

distention by increasing gastro intestinal tract and abdominal wall tone and stimulating peristalsis. Pain is often reduced when early ambulation is possible.

The postnatal caesarean mothers are in need of rehabilitation for pain relief of good quality after caesarean section which results in early mobilization and good early mother-child interaction. The research studies and working experience created an insight that there is lack of practice regarding early ambulation among mothers after caesarean section. So, there is a need to study the effect of early ambulation among post cesarean mothers.

## **MATERIALS AND METHODS**

The research approach adopted for this study is an evaluative approach. The research design selected for this present study was true experimental research design. The study was conducted on post LSCS women at maternity ward of Krishna Hospital, Karad, by taking 30 each samples in both experimental and control group using Random sampling technique. Early Ambulation was the independent variable and the dependent variable was post-operative recovery. Data were collected, tabulated and analysed in terms of objectives of the study using descriptive and inferential statistics.

### **Criteria For Selection Of Sample**

#### **1. Inclusion Criteria**

##### **Post LSCS women**

- Who are admitted in maternity ward at Krishna hospitals, Karad
- Who are able and willing to participate in study.
- Who are able to follow instructions

#### **2. Exclusion Criteria**

##### **Post cesarean mothers**

- who are not willing to participate in the study

- who are having other medical and gynaecological problems
- Patients who have doctors order for strict bed rest.

### **Sample characteristics**

Random sampling was chosen from the study population for the study. The data obtained to describe the sample characteristics include age, religion, education, occupation, type of incision, type of anaesthesia.

### **Description for final tool**

Final tool was prepared as per the suggestions of experts.

The final tool consists of 3 sections:-

- **Section1** : Demographic variables

A proforma for selected personal information was used to collect the sample characteristics.

The characteristics include age, religion, education, occupation, parity, type of previous labour, type of incision, type of anaesthesia.

- **Section2**: Checklist to record effectiveness of early ambulation

- **Section3**:

- Part 1:-Observational schedule on recovery measured in terms of restoration of activities of daily living.
- Part 2:- Observational schedule on recovery measured in terms of restoration of sense of well-being.

The steps used in data collection were as mentioned below

1. The investigator introduced herself and explained the purpose of conducting the study to the study subjects.
2. After considering the inclusion and exclusion criteria subjects were selected randomly to experimental and control group.

3. After obtaining a valid consent, for the experimental group, women were assessed by the investigator and in-bed exercises have given initially, which was then followed by out of bed exercises and finally mobilized the patient fully.
4. Women were monitored during the process.
5. The control group were under observation, but are being treated by other nurses and physiotherapists, hence they are getting their routine care.

6. According to the observation of each subject, findings were noted on data sheet.
7. Collected data was tabulated and analysed using descriptive and inferential statistics

## RESULTS

In order to find out the effectiveness of early ambulation, the data gathered were tabulated, analysed and interpreted using descriptive and inferential statistics.

**Table No.1:** Frequency and percentage distribution of post LSCS women in experimental and control group according to sample characteristics

Sr. No	Characteristics	Categories	Experimental group		Control group	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Age	21-25	21	70	21	70
		26-30	5	16.66	6	20
		Above 31	4	13.33	3	10
2.	Religion	Hindu	29	96.66	27	90
		Muslim	1	3.33	3	10
		Christian	0	0	0	0
		Other	0	0	0	0
3.	Education	Illiterate	0	0	2	6.66
		Primary	7	23.33	3	10
		Secondary	12	40	16	53.33
		Higher secondary	9	30	3	10
		Graduation and more	2	6.66	6	20
4.	Occupation	House Wife	28	93.33	25	83.33
		Farming	2	6.66	3	10
		Labour	0	0	0	0
		Business	0	0	0	0
		Professional	0	0	2	6.66
5.	Parity	Para 1	11	36.66	16	53.33
		Para 2	10	33.33	8	26.66
		Para 3	8	26.66	5	16.66
		Para 4 and above	1	3.33	1	3.33
6.	History of previous labour	Yes	19	63.33	14	46.66
		No	11	36.66	16	53.33
7.	Type of previous labour	LSCS	15	50	10	33.33
		Normal vaginal delivery	4	13.33	4	13.33
8.	Type of anaesthesia	General	0	0	0	0
		Spinal	30	100	30	100
		Epidural	0	0	0	0

The data presented in table 1 reveals Classification of LSCS women by Age, Religion, Education, Occupation, Parity, Type of previous labour, Type of anaesthesia. In both experimental and control group maximum number (21 [70%])

of post LSCS women belongs to the age group of 21-25, where minimum number, 4[13.3%] in the experimental group and 3 [10%] in the control group belongs to age group of above 31. Majority had their secondary education in both experimental

[40%] and control group [53.33%]. Maximum percentage of the post LSCS women in the experimental and control group were housewife, where the figure stood at 93.33 and 83.33 respectively. Majority of the women were primipara in both experimental [36.66%] and control group [53.33%]. Similarly 63.33% of post LSCS women in the experimental group have previous history of labour, in contrast to the control group where it accounts for about 46.66%. Out of the 19 women in the experimental group who had previous history of labour, 15 had their LSCS before and remaining 4 had normal labour. In control group, out of 14 post LSCS women, the figure for LSCS was 10 and for normal labour it was 4. Likewise 100% of post LSCS women in both experimental and control group have received spinal anaesthesia.

In this study, experimental group received ambulation immediately after recovering from anaesthesia effects, while the control group was observed everyday to determine the extent to which they do ambulation and thereby to see the effects on their activities of daily living and sense of well-being.

The below graphs 1 & 2 reveals that within 24 hours maximum number (26/30) of post LSCS women belongs to the experimental group did the average ambulation, while in the control group only 2/30 did the average ambulation. At 25-48 hours, about 93.3% of the post LSCS women in the experimental group did good range ambulation, in contrast to the control group where no one reached at good score. Similarly at 49-72 hours all (100%) post LSCS women reached to the good category, when comparing to the control group where only 60% acquired the good category.

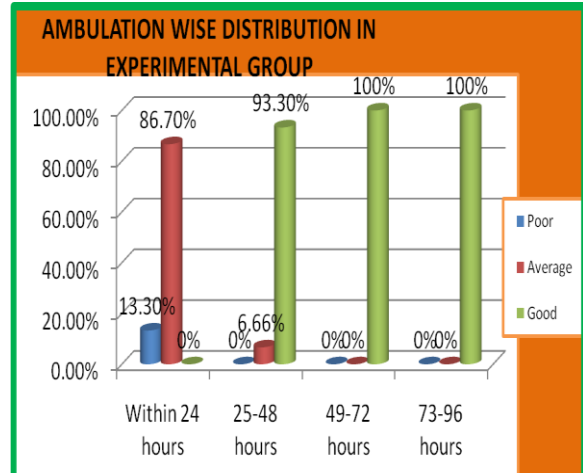


Fig 1: Graph Showing The Extent Of Ambulation Done By Post LSCS Women In Experimental Group

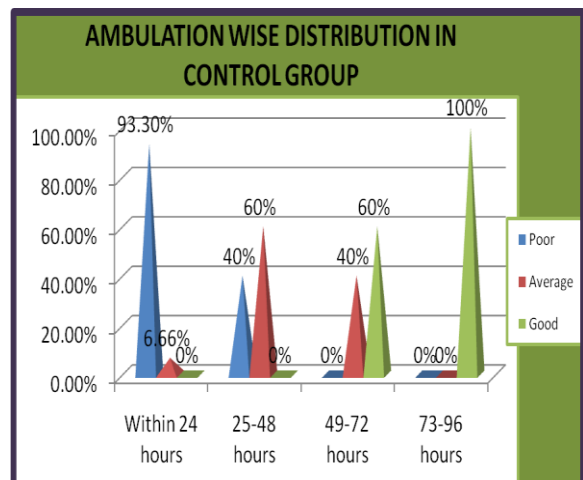


Fig 2: Graph Showing The Extent Of Ambulation Done By Post LSCS Women In Control Group

Table 2 reveals that in both experimental and control group mean and median scores were increasing as hours passed by. After the CS and within 24 hours the mean scores of experimental and control group was 5.6 and 1.86 respectively, which indicates an increase in about four fold in experimental group than in the control group. At 73-96 hours, mean scores in the experimental group was raised to 35.6, which is more when compared to the control group score of 32.96. The significance of early ambulation was tested by Freidman's test and obtained t value as 90 and p value as <0.0001. This indicates that by early

ambulation, the activities of daily living of post LSCS women improved.

Table-2 Hour –wise mean, median, SD, t value and P value of activities of daily living of Post LSCS women in experimental group and control group

Group	Particulars	Within 24 hrs	25-48 hrs	49-72 hrs	73-96 hrs	Friedman test& (P.value)
Experimental group	Mean +SD	5.6+4.17	18.56+4.8	32.43+2.34	35.6+0.56	90 (<0.0001) S
	Median	5.50	18.50	33	36	
Control group	Mean +SD	1.86+1.63	9.73+4.75	24.9+3.62	32.96+1.7	90 (<0.0001) S
	Median	1	10	25.5	33	
Mann-Whitney test value		164.50	74	33.50	27	
P.value		(<0.0001) S	(<0.0001) S	(<0.0001) S	(<0.0001) S	

S=Significant

When compared the experimental group with the control group a significant effect was found, which was calculated by using Mann-Whitney test, where the P value stands <0.0001

**The research hypothesis tested under this section was**

**H<sub>1</sub>**:-There will be significant difference between the activities of daily living of post caesarean women in the experimental and control group.

The difference between the mean scores of experimental and control group within 24 hours was 3.74 and at 25-48 hours the difference in mean scores was 8.83. At 73-96 hours difference in mean scores was reduced to 2.64. Thus it indicates that there is a significant difference persists.

Mann-Whitney test was used to calculate the t value and P value. It was done by Instat software. There is significant effect persists as P value is <0.0001

Table -3 Hour –wise mean, median, SD, t value and P. value of sense of well being of Post LSCS women in experimental group and control group.

Group	Particulars	Within 24 hrs	25-48 hrs	49-72 hrs	73-96 hrs	Friedman test& (P.value)
Experimental group	Mean +SD	5.033±1.54	10.5±1.33	13.86±0.51	14.36±0.49	87.66 (<0.0001) S
	Median	5	10	14	14	
Control group	Mean +SD	2.6±1.45	6.66±1.668	11.27±1.93	13.03±1.38	88.585 (<0.0001) S
	Median	2	7	11	13.5	
Mann-Whitney test value		119.50	37	53.50	157.50	
P.value		(<0.0001) S	(<0.0001) S	(<0.0001) S	(<0.0001) S	

S=Significant

**Table 3** :-reveals that mean scores of sense of well-being of post LSCS women in the experimental group within 24 hours was 5.03, which was increased to two fold at 25-48 hours. At 49-72 hours it was again increased to 13.86 and at 73-96 hours there was a increase in the scores by 0.5, which reveals that early ambulation showed a tremendous effect in the sense of well-being. This was tested using Friedman’s test, the t

value obtained was 87.6 and the p value was <0.0001.

Considering the difference between the mean scores of experimental and control group, within 24 hours, there was a difference of 2.43. At 25-48 hours the mean score difference of experimental and control group was 3.84, which was reduced to 1.33 at 73-96 hours. But the significant difference between them still persists. Here the Mann-Whitney test was used and significant

difference was found between the experimental and control group as p value was <0.0001

Thus it states that that by early ambulation, the sense of well-being of post LSCS women improved.

**The research hypothesis tested under this section was**

**H<sub>2</sub>:** There will be significant difference between the sense of well-being of post

caesarean mothers in the experimental and control group

Here mean, median values indicates that post caesarean mothers in the experimental group have attained early and well sense of well-being than the control group, which was calculated by using Mann-Whitney test and P value was <0.0001

Table No:4 Association Between Early Ambulation And Selected Demographic Variables

Sr. no	Parameter	Categories	Good Frequency(percent age[%])	Average Frequency(percent age[%])	Chi-square	df	P.value
1	AGE	21-25	20(66.7)	1(3.33)	1.837	2	0.3992 NS
		26-30	4(13.33)	1(3.33)			
		31 and above	4(13.33)	0(0)			
2	EDUCATION	Illiterate	0(0)	0(0)	14.483	3	0.0023 <b>S</b>
		Primary	7(23.3)	0(0)			
		Secondary	12(40)	0(0)			
		Higher secondary	9(30)	0(0)			
		Graduation	1(3.33)	1(3.33)			
3	PARITY	Para 1	11(36.7)	0(0)	4.286	2	0.1173 NS
		Para 2	8(26.67)	2(6.66)			
		Para3 and above	9(30)	0(0)			
4	TYPE OF PREVIOUS LABOUR	Primi	11(36.7)	0(0)	2.946	2	0.2292 NS
		LSCS	14(46.7)	1(3.33)			
		NVD	3(10)	1(3.33)			

S=significant  
Ns =not significant

**The table 4** reveals that Education was associated with early ambulation, where as age and parity and type of previous labour is not associated with early ambulation. The education computed Chi square value of 14.483 at 2 degree of freedom was associated with early ambulation.

## DISCUSSION

### Findings Related To Ambulation

As per the figure 1 and 2, it shows that, at 49-72 hours ,in experimental group 100% of post LSCS women reached to the good category, when comparing to the control group where only 60% acquired the good category.

This shows that, the early the attempt of ambulation, the early the women can ambulate herself.

A study was conducted in Alfred Hospital Melbourne (2006) on 1<sup>st</sup> walk after hip fracture surgery within 48hrs. Randomised method technique used ,sample of 60 patients,41women and 19 within mean age of 79year. Randomization was either early ambulation (EA) 1<sup>st</sup> walk in 1<sup>st</sup> and 2<sup>nd</sup> POD or delayed ambulation(DA) after 1<sup>st</sup> walk an 3<sup>rd</sup> or 4<sup>th</sup> POD. Functional level on day7 post surgery, the length of day and destination at discharge were compared. The result at 1<sup>st</sup> week post surgery patient in the EA group walked further than those in the DA group (p=0.03) and required less assistance to transfer (P=0.009) and negotiate a sleep (P=0.23) patients in the EA group were more likely to discharged directly home from act care than those in DA group and less likely to need high level care. A failed EA subgroup had significantly

more post operative cardiovascular instability and worse result for all outcome measures. And final conclusion was EA after hip fracture surgery accelerates functional recovery and associated with more discharge.<sup>[5]</sup>

### **Findings Related To The Effect Of Early Ambulation On Activities Of Daily Living And Sense Of Well-Being**

Table 2 reveals that in both experimental and control group, mean and median scores are increasing as hours passed by. After the CS and within 24 hours the mean scores of experimental and control group was 5.6 and 1.86 respectively, which indicates an increase in about four fold in experimental group than in the control group. At 73-96 hours, mean scores in the experimental group was raised to 35.6, which is more when compared to the control group score of 32.96. This indicates that by early ambulation, the activities of daily living of post LSCS women improves.

To compare the experimental group with the control group, Mann-Whitney test was used, which showed that there was a presence of significant effect which was indicated by P value of <0.0001, considered as extremely significant.

Table 3 reveals that mean scores of sense of well-being of both experimental and control group was 5.033 and 2.6 respectively, which indicates a difference of 2.433. At 25-48 hours the mean score difference of experimental and control group was 3.84, which was reduced to 1.33 at 73-96 hours. But the significant difference between them still persists.

Here Mann-Whitney test was used to compare the experimental group with the control group and found that significant effect, which was indicated by the P value of <0.0001

The above study is supported by the following studies:-

An experimental study was conducted by P.D. Williams et al (2008) in J, Hills Miller Health Centre, College of Nursing University of Florida, USA to determine on Effects of preparation for mastectomy/hysterectomy on women's post-operative self-care behaviors. The sample of 60 women, 30 mastectomy and 30 hysterectomies in experimental group and control group respectively. The independent variables are observed by nurse. The patient in the group given pre operative instructions performed at significantly higher level they required neither prompting nor assistance in initiation and completion of ambulation tasks compare to uninstructed group. Most patients in uninstructed group did not initiate their tasks despite prompting and physical assistance by nurse. This is presented at Sigma Theta Tau international scientific session. Finally the study concluded that the group applied early ambulation and exercise in 1<sup>st</sup> Post Operative Day where initiated their task and early self care, recovery and discharge compare to uninstructed group.<sup>[6]</sup>

A quasi experimental study was conducted by Dube J.V, Kshirsagar N.S and Durgawale P.M to evaluate the effect of planned early ambulation on selected postnatal activities of post caesarean patients. The result showed that there was significant difference in the activities carried out by the study subjects of experimental and control group, as evidenced by better activities of experimental group. This indicated the beneficial effect of planned early ambulation on resumption of activities of post caesarean patients.<sup>[7]</sup>

A study was conducted by İlkin Çıtak Karakaya in 2011 to investigate the effects of a physiotherapy program on incision pain and functional activities in the early post-caesarean period. The study concluded that the effectiveness of a physiotherapy program in the early post-caesarean period in a wider perspective than



the current literature, and are considered to be valuable for increasing the quality and productivity of the postnatal care, therefore improving well-being after childbirth.<sup>[8]</sup>

A descriptive study was conducted in Sringerind Hospital by Ratna Rangtonggul et.al in 2005 to determine the incidence and magnitude of pain during the 2<sup>nd</sup> post operative day after abdominal hysterectomy using interviewing method with the background to encourage the patients to ambulate after 24 hours of surgery. The study concluded early mobilized patients are having less pain and recovery soon as compared to immobilize patients.<sup>[9]</sup>

### **Findings Related To The Association Of Early Ambulation With Selected Demographic Variables**

Table 4 reveals that there is no any significant association between the early ambulation and the demographic variables such as age, parity and type of previous labour.

Education computed chi-square value of 14.483 at 3 degrees of freedom was associated with early ambulation. Here the P value is 0.0023.

### **Limitation Of The Study**

Only a small area is chosen to evaluate the effect of early ambulation

### **Recommendation**

The recommendation consists of statements which have implications for the policy and decision matter.

1. The study can be replicated on a large number of samples to generalize the findings.
2. The study can be done to find the effect of early ambulation on different aspects.
3. The study may be conducted in different settings.
4. The study can be done to assess the knowledge and practice of caesarean section mothers and also their attitude towards early ambulation.

## **CONCLUSION**

Based on the analysis of findings of the study, the following inference was drawn. Early ambulation helps post LSCS women to recover early and resume the activities of daily living early and thereby good sense of well-being.

The main interest of the study is to make the post LSCS women aware about the benefits of doing early ambulation by practicing themselves. The investigator should have the ability to gain the confidence of the women so that they can provide ambulation easily to the post LSCS women.

So the study states that early ambulation helps to resume the ADL early and thereby can achieve a good sense of well-being. It also states that education matters a lot, as significant association was found between early ambulation and education.

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