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Effect of Planned Early Ambulation on Psychophysical Well-being of Post-cesarean Patients

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ABSTRACT

Introduction: As the well-being of maternal and child health occupies paramount place in health-care delivery system, cesarean section (CS) has become the most common intervention in obstetrics discipline. Since the past 25 years, factors such as medical, psychological, social, financial, and legal seem to have contributed to rise in CS rates. In spite of changes in its indications, CS is currently performed to benefit the fetus, not the mother. The present study aimed to study the effect of planned early ambulation on post-cesarean patients. **Materials and Methods:** Quasi-experimental approach with pre- and post-intervention multiple time series study design was adopted. A non-probability purposive sampling technique was used to meet sample size of 500, distributed equally in experimental and control groups. With routine post-cesarean care, planned early ambulation was initiated for the experimental group on the day of LSCS and was followed twice a day for the first 5 post-cesarean days. The study subjects of control group were refrained from this intervention. At the end of each day, the desired data were collected by structured observation and self-report techniques. **Results:** The study subjects of the experimental group had better responses in relation to selected aspect of psychophysical well-being as compared to the control group. The significant difference was noted in the selected aspects of psychophysical well-being among the experimental and control groups. **Conclusion:** The study concluded that planned early ambulation is effective strategy in achieving early psychophysical well-being in post-cesarean patients.

Keywords: Cesarean section, Planned early ambulation, Psychosocial well-being

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Introduction

Although childbirth is a universally celebrated natural event; yet for many thousands of women in India, it is becoming a matter of concern. Studies have shown how, over the past few decades, childbirth has come under the influence of medical technology. Over medicalization of maternal care has become a worldwide epidemic. In fact, medicalization, in general, has taken control over human life and maternal health comes also under its ambit. One example of the medicalization of the human body is cesarean section (CS) delivery.[1]

CS is the oldest worldwide surgery performed in obstetrics and also the second most common surgery performed on women in India.[2] It is not performed as a last resort, but as a safe alternative to risky vaginal delivery. Indicated and timely CS is of tremendous benefit to the mother and the baby.[3] In the past three decades, the world has witnessed dramatic rise in CS rates.[4] At present, in addition to every obstetrical abnormality, CS is frequently performed for no obstetrical abnormality at all.[5]

The steady rise in CS rates is an emerging area of concern in mother-child health care and a matter of international attention.[6]

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Although it is a comparatively risk-free procedure (editorial, 1988), it is not without problems for anesthetists, obstetricians, midwives, physiotherapists, and most important of all for the woman herself.[7]

Although the indicated and timely CS has tremendous advantages for mother and baby, the woman undergone CS has more problems, minor or major, than a woman with vaginal delivery. Some of these are longer duration of hospital stay, post-operative pain, delayed ambulation, increased period required to return to normal meals, breast engorgement, urination problems, problems in relation to bowel movements, lactation failure, and less maternal newborn bonding.[6] It has been stated that increase in the CS in low-risk women is associated with more maternal morbidity and mortality.[8]

Review of more than 300 research studies done by Maternity Center Association showed that women who undergo CS are at significantly higher risk than women who have a vaginal birth, for infection, rehospitalization, and poor birth experience.[9]

Hence, the study was undertaken to ensure that the selected aspect of postnatal care is contributed with careful thought. It was titled as a study "to assess the effect of planned early ambulation on post-cesarean patients" in which one of the objectives was to assess the effect of planned early ambulation on the psychophysical well-being of post-cesarean patients.

Materials and Methods

Based on the aim and objectives of the study, quantitative-quasi-experimental approach was used. Pre- and post-intervention multiple time series study design was adopted. The investigator carried out the study in selected tertiary care hospital of Jargon. A partially controlled setting was used to conduct the study.

The study subjects for the study consisted of 500 post-cesarean patients. The sampling technique used was non-probability purposive sampling. The samples those who fulfilled inclusion criteria like those who underwent primary or repeat CS, emergency, or planned LSCS under spinal anesthesia, with minimum discomfort in post-operative period, which were available within the first 4 to 5 h after surgery and were willing to participate in the study were included in the study. Post-cesarean patients with classical CS or LSCS under general anesthesia, who had developed major complications in intraoperative or post-cesarean period, who were not willing to participate in the study, suffering with major pregnancy complications such as severe anemia, DM, heart diseases, primary pulmonary hypertension, severe pregnancy-induced hypertension with eclampsia, postpartum psychosis, and whose newborns were still born or admitted in NICU were excluded from the study.

After obtaining the ethical clearance from the ethics committee and after securing the permission from concerned authority of hospital, the study subjects were solicited from population of maternity patients with LSCS. The patients who met the study criteria were requested to participate in the study. The purpose of the study, potential benefits and risks, right to confidentiality, and right to withdrawal were explained to each patient in their mother tongue and additional doubts asked by them were cleared with appropriate explanation. Those patients who were willing to be a part of study were requested to sign an informed consent.

After that, each sample was assigned to either experimental or control group. Each study subject was given an identification number to maintain confidentiality. Each group consisted of total 250 study subjects. Based on the predetermined plan of action, the investigator carried out intervention of planned early ambulation and observations for each study subject. The ambulation guidelines consisting of deep breathing exercise, coughing exercise, leg exercises, and moving, which were followed for first 5 days. The planned ambulation technique[10] was taught by explanation cum demonstration to the study subjects and they were supervised while execution of guidelines. Later on, the study subjects were instructed and motivated to follow the techniques for 2 times in a day with an interval of 4–5 h, for first 5 post-cesarean days.

A plan for taking necessary steps was made on the previous day for the old study subjects. New study subjects were added as per convenience. The privacy was maintained for study subjects of experimental group while ambulating. Preference was given to each study subjects willingness, convenience, and comfort.

The tool used for data collection was semi-structured interview schedule on psychophysical well-being. The objective of using this tool was to assess the psychophysical well-being of the study subjects in relation to their feelings and comfort during day, comfort at night, and comfort during activities, and additional problems faced in post-operative period. This tool was prepared based on experts opinion, own experiences, and interaction with maternity patients. The content validity and interrater reliability of the tool were established. Semi-structured interview technique was used to collect the necessary information from study subjects, which was conducted at the end of each post-cesarean day from day 1 to day 5.

Results

As per the selected objective of the study, the statistical analysis was done using frequency, percentage Chi-square, and z test, as applicable.

Demographic and obstetrical data of the study subjects were analyzed with frequency, percent, and Chi-square test. The comparison of scores of psychophysical well-being and minor problems faced by the study subjects of the experimental and control groups was done using z test.

Analysis of data related to distribution of study subjects based on selected demographic and obstetrical data

The data in relation to selected demographic and obstetrical parameters of the samples, presented in Table 1, show that out of total 500 study subjects, majority of the study subjects, that is, 244 (48.8%) were from the age group of 21–25 years. Majority study subjects, collectively of both the groups, that is, 267(53.4%) were multigravida at the time of CS. More than half, that is, 260 (52%) study subjects were primipara and remaining 240 (48%) were multipara. For majority of subjects, that is, for 395 (79%) subjects, the emergency CS was done. Out of total 500 study subjects, majority 313 (62.6%) had primary CS at the time of study and also for majority 309 (61.8%) surgery was done due to maternal indications. In the post-cesarean period, the maximum number of subjects, 173 (34.6%) were discharged on 8th post-operative day, in which 82 (32.8%) were of the experimental group and 91 (36.4%) were of the control group.

The analysis of data by test statistics χ^2 showed that there was no significant difference in the distribution of the study subjects based on the selected demographic variables of age, gravida, parity, type of CS, and indication for CS. Hence, it was concluded that the samples of both the groups were equally probable and were representative of the population.

The significant difference was obtained in the selected parameter of day of discharge among the experimental and control groups. It was suggestive of non-equal probability of the study groups, which might be the result of intervention of planned early ambulation.

Distribution of study subjects based on response to semi-structured interview

The data presented in Table 2 regarding the semi-structured interview showed that the study subjects had better psychophysical well-being in terms of feelings at the end of the day, more comfort during day and night and the subjects who experienced maximum comfort during activities were more in the experimental group as compared to that of the control group. The subjects with good feelings at the end of the day, comfort during day, and comfort at night on all post-cesarean days were more than 90% in the experimental group whereas in the control group, they were <75%. Furthermore, more than 50% of subjects of the experimental group showed comfort during the activities; whereas <10% of subjects of the control group were comfortable during activities, on all first 5 post-cesarean days of assessment.

Analysis, comparison, and interpretation of data related to response to semi-structured interview schedule

From the data presented in Table 3, it was evident that on all first 5 post-cesarean days, the significant difference was obtained in the responses given by the study subjects of the experimental and control groups on selected aspects of psychophysical well-being such as feelings at the end of the day, comfort during day, comfort at night, and comfort during activities., There was no significant difference noted only for the feelings at the end of the 1st post-cesarean day. The significant difference was evident, at 0.05 level of significance, in all the aspects of psychophysical well-being

Table 1: Distribution of study subjects based on selected demographic and obstetrical characteristics (*n*=500)

S. No.	Variables	Specification	Experimental group		Control group		χ^2	Table value	Level of significance
			Freq.	Percent	Freq.	Percent			
1	Age	<20 years	32	12.8	34	13.6	0.608	9.48	NS
		21–25 years	123	49.2	121	48.4			
		26–30 years	71	28.4	75	30.0			
		31–35 years	21	8.4	17	6.8			
		More than 36 years	03	1.2	03	1.2			
2	Gravida	Primigravida	111	44.4	122	48.8	0.972	3.84	NS
		Multigravida	139	55.6	128	51.2			
3	Parity	Primipara	122	48.8	138	55.2	2.051	3.84	NS
		Multipara	128	51.2	112	44.8			
4	Type of CS	Elective	56	22.4	49	19.6	0.590	3.84	NS
		Emergency	194	77.6	201	80.4			
5	Indication for CS	Maternal indication	157	62.8	152	60.8	4.501	5.99	NS
		Fetal indication	63	25.2	52	20.8			
		Combined indication	30	12.0	46	18.4			
6	Number of CS	Primary	154	61.6	159	63.6	0.214	3.84	NS
		Repeat	96	38.4	91	36.4			
7	Day of discharge	Fifth POD	63	25.2	59	23.6	20.71	11.07	*
		Sixth POD	09	3.6	02	0.8			
		Seventh POD	69	27.6	43	17.2			
		Eight POD	82	32.8	91	36.4			
		Ninth POD	04	1.6	07	2.8			
		Tenth POD	23	9.2	48	19.2			

* - 0.05 level of significance, POD: Post-operative (cesarean) day

on all the days of assessment, where obtained Z value was greater than table Z value of 1.64.

Thus, findings by the semi-structured interview revealed that the study subjects of the experimental group had better responses in relation to the selected aspect of psychophysical well-being and there was statistically significant difference in the selected aspects of psychophysical well-being among the experimental and control groups. Furthermore, the minor problems faced by the experimental group were less as compared to the study subjects of the control group. Based on the above findings, the research hypothesis (H_1) stating that "there will be significant difference in psychophysical well-being and minor problems faced by the study subjects of the experimental and control groups, as evidence by better feelings and less problems in experimental group, as assessed by semi-structured interview schedule" was accepted, at 0.05 level of significance.

Table 2: Data related to responses to semi-structured interview schedule (n=500)

Analysis of interview	Response	Day 1				Day 2				Day 3			
		Experimental group		Control group		Experimental group		Control group		Experimental group		Control group	
		Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Feelings at the end of the day	Sick	00	00	01	0.4	00	00	04	1.6	02	0.8	25	10
	Fair	54	21.6	62	24.8	20	08	88	35.2	21	8.4	168	67.2
	Good	196	78.4	187	74.8	230	92	158	63.2	227	90.8	57	22.8
Comfort during day	Yes	249	99.6	244	97.6	249	99.6	232	92.8	243	97.2	189	75.6
	No	01	0.4	06	2.4	01	0.4	18	7.2	07	2.8	61	24.4
Comfort at night	Yes	247	98.8	236	94.4	139	55.6	220	88	229	91.6	125	50
	No	03	1.2	14	5.6	11	4.4	30	12	21	8.4	125	50
Comfort during activities	Yes	76	30.4	05	02	162	64.8	09	3.6	198	79.2	10	04
	To some extent	172	68.8	196	78.4	87	34.8	189	75.6	48	19.2	111	44.4
	No	02	0.8	49	19.6	01	0.4	52	20.8	04	1.6	129	51.6

Discussion

Beatrice J Kalisch, Soohee Lee and Beverly W Dabney conducted literature review on "outcomes of inpatient mobilization" with the aim to review current research evidence on the outcomes of mobilizing hospitalized adults. The electronic databases of MEDLINE (Ovid), CINAHL, and PubMed were accessed to search for relevant empirical articles, supplemented by a search of reference lists contained in retrieved articles and citation tracking. Thirty-six studies were identified for inclusion in the review. Four areas (study design, sample size, measurement, and statistical analysis) were evaluated for methodological quality, and most studies showed strong quality the study concluded that mobilizing hospitalized adults bring benefits for not only physical functioning but also their emotional and social well-being. Moreover, ambulation yields important organizational benefits. The study also emphasized the clinical relevance in terms of the importance of mobilization for positive patient outcomes highlights the need to develop methods to ensure that this nursing action is completed on a systematic basis.[11] Similar type of findings was noted by Clement I in the study "Effectiveness of modified early ambulation on activities of daily living and functional activity and psychological well-being among the patients undergone abdominal surgery" conducted in Kempagowda Institute of Medical Sciences, Bengaluru. About 150 samples were selected, 75 in each group. An experimental research design was selected. The study and control groups have pre-test and post-test conducted with intervention as modified early ambulation done only for the study group. Data collection was done using observation checklist for assessing activities of daily living and functional activity, interview schedule on psychological well-being of patients undergone abdominal surgery. The finding of the study revealed that there was a significant difference in modified early ambulation and post-operative psychological well-being in the study group.[12]

Analysis of interview	Response	Day 4				Day 5			
		Experimental group		Control group		Experimental group		Control group	
		Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Feelings at the end of the day	Sick	02	0.8	45	18	02	0.8	30	12
	Fair	15	06	178	71.2	01	0.4	168	67.2
	Good	233	93.2	27	10.8	247	98.8	52	20.8
Comfort during day	Yes	241	96.4	167	66.8	248	99.2	186	74.4
	No	09	3.6	83	33.2	02	0.8	64	25.6
Comfort at night	Yes	238	95.2	117	46.8	245	98	157	62.8
	No	12	4.8	133	53.2	05	02	93	37.2
Comfort during activities	Yes	223	89.2	12	4.8	239	95.6	17	6.8
	To some extent	23	9.2	116	46.4	11	4.4	168	67.2
	No	04	1.6	122	48.8	00	00	65	26

Table 3: Analysis, comparison of data related to response to semi-structured interview schedule (n=500)

Post-cesarean day	Response related to	Response	Experimental group		Control group		SE	Obtained Z value	Level of significance
			Freq.	Percent	Freq.	Percent			
First POD	Feelings at the end of the day	Good	196	78.4	187	74.8	0.0378	0.9515	NS
	Comfort during day	Yes	249	99.6	244	97.6	0.0104	1.9101	*
	Comfort at night	Yes	247	98.8	236	94.4	0.0160	2.7346	*
	Comfort during activities	Yes	76	7.6	05	0.2	0.0271	27.9102	*
Second POD	Feelings at the end of the day	Good	230	92	158	63.2	0.0349	8.2295	*
	Comfort during day	Yes	249	99.6	232	92.8	0.0168	4.0407	*
	Comfort at night	Yes	139	55.6	220	88	0.0375	8.6289	*
	Comfort during activities	Yes	162	64.8	09	3.6	0.0324	18.8759	*
Third POD	Feelings at the end of the day	Good	227	90.8	57	22.8	0.0322	21.1040	*
	Comfort during day	Yes	243	97.2	189	75.6	0.0290	7.4230	*
	Comfort at night	Yes	229	96.1	125	50	0.0339	13.5946	*
	Comfort during activities	Yes	198	79.2	10	4.0	0.0285	26.3811	*
Fourth POD	Feelings at the end of the day	Good	233	93.2	27	10.8	0.0252	32.6008	*
	Comfort during day	Yes	241	96.4	167	66.8	0.0320	9.2413	*
	Comfort at night	Yes	238	95.8	117	46.8	0.0340	14.4064	*
	Comfort during activities	Yes	223	89.2	12	4.8	0.0238	35.4094	*
Fifth POD	Feelings at the end of the day	Good	247	98.8	52	20.8	0.0265	29.3480	*
	Comfort during day	Yes	248	99.2	186	74.4	0.0281	8.8034	*
	Comfort at night	Yes	245	98	157	62.8	0.0318	11.0603	*
	Comfort during activities	Yes	239	95.6	17	6.8	0.0205	43.2394	*

NS: Not significant, * - 0.05 level of significance. POD: Post-operative day

Morteza Rezaei-Adaryani conducted a study on "effect of changing position and early ambulation after cardiac catheterization on patients' outcomes: Single-blind randomized controlled trial." The study aimed to assess the effect of changing position and early ambulation on the level of comfort, satisfaction, and fatigue and on the amount of bleeding and hematoma after cardiac catheterization. The study was done on total 70 samples. In a single-blind randomized controlled trial, each patient was randomly assigned to group, experimental or control. The patients' position in the experimental group was intermittently changed during the first 6 h after catheterization. Seven hours after the procedure, they were allowed to be ambulated and to undertake their self-care activities. Patients in the control group were managed as routine; they were restricted to a 10–24 h bed rest in supine position with the affected leg straighten and immobilized and a sand bag on the puncture site for at least 8 h. The study results revealed that the patients in the experimental group had significantly higher comfort and satisfaction and lower fatigue levels than the control group at 3rd, 6th, and 8th h and the next morning after catheterization ($P < 0.01$). The study concluded that changing patients' position accompanied by early ambulation after cardiac catheterization is associated with increasing comfort and satisfaction levels and decreasing the level of fatigue without increasing the amount of bleeding and hematoma.[13] Toby B. Cumming, Janice Collier, Amanda G Thrift, Julie Bernhardt studied "the effect of very early mobilization after stroke on psychological well-being" with the objective of the effect of very early mobilization after stroke on levels of depression, anxiety, and irritability. Seventy-one patients with confirmed stroke were included. Randomized controlled trial

design was used. Patients were assessed on the irritability, depression, and anxiety (IDA) scale at multiple time-points. Moreover, the result showed that at 7 days, very early mobilization patients were less depressed ($z = 2.51$, $P = 0.012$) and marginally less anxious ($z = 1.79$, $P = 0.073$) than standard care patients (Mann–Whitney *U*-test). Classifying IDA scores as normal or depressed, and using backward stepwise multivariable logistic regression, very early mobilization was associated with a reduced likelihood of depression at 7 days (odds ratio 0.14, 95% confidence interval 0.03–0.61; $P = 0.009$). The study concluded that very early mobilization may reduce depressive symptoms in stroke patients at 7 days post-stroke.[14]

Conclusion

Hence, it could be concluded from the findings of the study and statistical analysis that the planned early ambulation is effective strategy in stabilizing and improving the general condition of post-cesarean patients and it also helps in early resumption of the activities of daily living in relation to self-care and care of newborn. It also adds to the better feelings related to psychophysical well-being in post-cesarean period. Because of the observed benefits of the planned early ambulation, it can be recommended for the post cesarean patients for early recovery and psychophysical wellbeing in post operative period.

Conflicts of Interest

The author declares no conflicts of interest.

References

1. Ghosh S, James KS. Levels and trends in caesarean births: Cause for concern? Econ Polit Wkly 2010;45:19-22.
2. Roy CC. Caesarean Births: the Indian Scenario; 2008. Available from: http://www.paa2008.princeton.edu/papers/80693.
3. Akolekar R, Pandit SN, Rao SB. Caesarean Births. 1st ed. New Delhi: National Book Depot; 2004.
4. Chhabra S, Shende A, Bangal V. Cesarean sections in developing and developed countries. J Trop Med Hyg 1992;95:343-5.
5. Oumachigui A. Rising rates of caesarean section: The way ahead. Indian J Med Res 2006;124:119-22.
6. Sampoornam W, Thanka MM, Babu AA. Is there any difference in mother child bond between normal delivery and cesarean section in primigravida mothers? Int J Health Sci Res 2013;3:86-9.
7. Jill Mantle BA, Haslam J, Barton S. Physiotherapy in Obstetrics and Gynecology. 2nd ed. New Delhi: A Division of Reed Elsevier Private Ltd.; 2005.
8. Patil M, Nimbargi V, Mehendale S. Trends of cesarean section at tertiary care hospital in India over 10 years. Indian J Appl Res 2012;2:153-6.
9. Eileen M. Cesarean Section Compared to Vaginal Birth. New York: Maternity Center Association; 2004.
10. Berman AT, Snyder S. Kozier and Erb's Fundamentals of Nursing: Concept, Process and Practice. 10th ed. New Jersey: Pearson Education Ltd.; 2015.
11. Kalisch BJ, Lee S, Dabney BW. Outcomes of inpatient mobilization: A literature review. J Clin Nurs 2013;23:1486-501.
12. Clement I. Effectiveness of modified early ambulation on activities of daily living, functional activity and psychological wellbeing among the patients undergone abdominal surgery. Int J Sci Res 2018;7:734-8.
13. Rezaei-Adaryani M, Ahmadi F, Asghari-Jafarabadi M. The effect of changing position and early ambulation after cardiac catheterization on patients' outcomes: A single-blind randomized controlled trial. Int J Nurs Stud 2009;46:1047-53.
14. Cumming TB, Collier J, Thrift AG, Bernhardt J. The effect of very early mobilisation after stroke on psychological well-being. J Rehabil Med 2008;40:609-14.