



Original Research

The Effect of Early Mobilization on Intestinal Peristaltics in Patients after a Cesarean Section in Kendari City Hospital

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ABSTRACT

Background: Cesarean section (CS) is the most significant surgical intervention that affects the central nervous system and that slows down the bowel movement after CS. Intervention in the early period after CS is needed to improve bowel function. This study aims to determine the effect of early mobilization on intestinal peristalsis after cesarean section.

Method: This quasi-experimental study was conducted on 72 patients divided into two groups of 36 for the intervention group at Dewi Sartika Public Hospital and for the control group at Kendari Public Hospital. A paired T-test was used for the data analysis.

Result: After the intervention, there was a significant improvement in intestinal peristalsis in the intervention group ($P < 0,05$).

Conclusion: Early mobilization is an effective intervention to improve intestinal peristalsis in patients after cesarean section.

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INTRODUCTION

Cesarean section is a major and common surgical procedure. SC is directly related to postoperative changes in the autonomic nervous system, which causes a decrease in bowel movements, which in turn causes several problems (Ledari, Barat, Delavar, Banihosini, & Khafri, 2013). Potential complications in post-SC patients include paralytic ileus, atelectasis, infection wounds, urinary retention and urinary tract infections (İZVEREN & DAL, 2011).

The average rate of SC is around 10-15% per 1000 births in the world (WHO, 2015). SC deliveries in the UK from 2008 to 2009 showed that the SC number increased by 24.6%, which in 2004 was around 24.5%. In Australia in 2007, there was a 31% increase which in 1980 was only 21% (Afriani, Desmiwanti, & Kadri, 2013). In Indonesia, the rate of labor with SC reached 9.8% and in Yogyakarta, the prevalence of labor with SC reached 15%. This prevalence is quite high, seeing as the highest prevalence occurring in Jakarta is presently 19.9%.

Postoperatively, the anesthesia given to patients can affect the digestive tract by decreasing intestinal mobility. As a result of decreased mortality,

peristalsis also decreases. Decreased motility results in changes in the pattern of elimination, namely constipation (Buhimschi et al., 2007; Komariyah et al., 2013). Post-SC mothers need intensive supervision to reduce the complications due to surgery by way of early mobilization (Ung et al., 2010).

Early mobilization can influence the mother after cesarean section physically, as it has an effect on the cardiovascular system by increasing the cardiac output, strengthening the heart muscle, ensuring smooth circulation, improving the bodily metabolism regulation, restoring the physical work functions and keeping the vital signs within normal limits which will accelerate the wound healing process so then the risk of infection does not occur. Otherwise, this trains the muscles and joints after surgery to prevent stiffness. In the digestive system, it increases gastric mobility and improves the abdominal muscle tolerance (Brunner & Suddarth, 2002; Taylor et al., 2006).

Early mobilization is a policy that focuses on, as soon as possible, guiding the clients out of bed and guiding them as soon as possible to walk (Ambarwati & Wulandari, 2010). However, there are still many post-SC mothers who do not want to do early mobilization because the mother feels pain or

Table 1 Respondents' Frequency Distribution Based on Age, Education Level, Profession and the Indications of the Post-Caesarean Patients' Sectional Section in Kendari General Hospital

Distribution of Respondents		n	Percentage (%)	Homogeneity Test
Age	20 - 30 years	46	63,9	0,342
	31 - 40 years	26	36,1	
Education	Primary school	6	8,3	0,293
	Junior high school	5	6,9	
	Senior High School	47	65,3	
	Bachelor	14	19,4	
work	Housewife	49	68,1	0,212
	Entrepreneur	11	15,3	
	Government employees	10	13,9	
	College student	2	2,8	
Indication of Cesarean section	Cephalopelvic disproportion	43	59,7	0,310
	Breech location	19	26,4	
	Location of Buttocks	3	4,2	
	Big baby	7	9,7	

Table 2 Paired T-Test Test Effect of Early Mobilization on Increased Intestinal Peristalsis in Post-Cesarean Patients in Kendari City Hospital

Variable	Early mobilization		Delta Δ	P value	Control		Delta Δ	P value
	Pre	Post			Pre	Post		
	Mean + SD	Mean + SD			Mean + SD	Mean + SD		
Intestinal peristaltics	11,31+1,489	15,81+1,849	4,500	0,000	11,31+1,470	14,22+1,290	2,917	0,000

because she is lazy because she is afraid of losing stitches on the 2-3 SC day (Suhartini, Heaven, & Banks, 2014).

Research conducted in America shows that postoperative cesarean complications can rupture the uterine wall or cause homeostasis in the blood circulation resulting in bleeding and infection with 46% of all mothers being treated. This complication can be prevented by carrying out physical monitoring and early mobilization actions in postoperative cesarean section mothers (Alanis, Villers, Law, Steadman, & Robinson, 2010; Hartati & Afiyanti, 2015).

The early mobilization of the cesarean section can be carried out by the mother several hours post-childbirth following a cesarean delivery. To prevent post-operative SSC complications, the mother must immediately be mobilized. After experiencing SC, the mother is advised not to be lazy and to move. The faster the move the better, but early mobilization must be carried out carefully as well (Astriana, 2016).

Based on the description above, the researchers were interested in conducting a study on the effect of early mobilization on increased intestinal peristalsis in post-caesarean patients in Kendari City Hospital.

MATERIALS AND METHODS

This study used a pretest-post-test quasi-experimental design with a control group. The sample consisted of 72 post-caesarean section patients

divided into 2 groups; 36 for the early mobilization group in Dewi Sartika hospital and 36 in the control group in the municipal general hospital of Kendari. The sampling technique used was non-probability sampling, specifically consecutive sampling. For the inclusion criteria, the conscious patients (compos mentis) aged between 20-40 years who were in the postpartum term, who were first-time cesarean section surgery patients, elective cesarean section patients and who were post-caesarean section patients who had undergone spinal anesthesia. The exclusion criteria were patients with a history of diseases such as hypothyroidism and neurological disorders, patients with a history of abdominal surgery other than a cesarean section, patients who have a history of digestive system disorders due to labor and patients with an inability to intervene.

The intervention group began to be given after the patients were aware of the effects of anesthesia or 4 hours post-caesarean section starting with leg exercises. This intervention was carried out two times during the 10 hour period post-caesarean section (hours 4 and 7) or 3 hours by moving the legs through bending the knees and raising the legs-hold for a few seconds, then straightening the legs and lowering the bed. This was done 5 times for one leg and then repeated on the other leg. Then they made a circle with the legs bent downward in close proximity to each other, before moving them upwards and then repeating this movement 5 times. The post-caesarean section change exercise was done once 10 hours post-

caesarean section. The regulated position was lying on the right/left side, with the arm under the body flexed in front of the head or on the pillow. A pillow can be placed under the head and shoulders to support the sternocleidomastoid muscle. A pillow can also be placed under the hand to prevent the arm and shoulder from rotating inward. A pillow can be placed underneath it to prevent the thighs from forming and rotating inward and another pillow can be placed under the upper leg, while the upper leg is set slightly bent forward. This is carried out for 5 minutes and carried out alternately.

The control group received standard therapy in the Kendari Regional General Hospital room, namely concerning the early mobilization of patients 8 hours post-caesarean section for 15 minutes and up to 10 hours post-caesarean section. Objective and subjective measurements were performed before and after the intervention. The collected data was analyzed using the paired t-test. The study was approved by the research ethics committee of the Faculty of Nursing, Universitas Airlangga and by the Hospital where the study took place. All of the respondents were informed of the purpose of the study and consented to their participation in the study.

RESULT

Based on Table 1, it shows the characteristics of the respondents based on age. The majority of the respondents had an age of 20 - 30 years by as many as 46 respondents (64.6%). The demographic data on the age of respondents in both groups showed a homogeneous data variant with a p-value = 0.342. For the characteristic of education, the highest number of respondents had a high school level education, as many as 47 respondents (65.3%). The demographic data on the education level of the respondents of the two groups showed a homogeneous data variant with a p-value = 0.293. For the job characteristics, most of them, totaling 49 respondents (68.1%), were housewives (IRT). The demographic data on the profession of the respondents in both groups showed a homogeneous data variant with a p-value = 0.212. The characteristics of the indications of cesarean section showed that the highest number of respondents had CPD for as many as 43 respondents (59.7%). The demographic data indications of cesarean section in both groups showed a homogeneous data variant with a value of $p = 0.310$. Intestinal peristalsis in the post-caesarean patient's section before and after getting an early mobilization intervention 3 times at the 4th hour, the 7th hour and the 10th hour post-caesarean section was obtained. The results were then tested using a paired t-test to see the results of the pre-test hour difference compared to the post-test at the 3rd hour and 12th hour.

Based on Table 2, it shows that in the early mobilization group, there was an intestinal peristaltic enhancement of 4,500 and that the control group had an intestinal peristaltic increase of 2,917. After testing the data analysis using the paired test ($\alpha 0,05$)

in the early mobilization group, it obtained a p value of 0,000 which means that there is an effect from chewing gum on intestinal peristalsis in the post-caesarean patients in Kendari City Hospital.

DISCUSSION

The early intervention group had an intestinal peristaltic enhancement of 4,500 and the control group had an intestinal peristaltic enhancement of 2,917. This study supports the study stating the effect of early mobilization on intestinal peristalsis in post-laparotomy patients who said that early mobilization can accelerate the function of intestinal peristalsis (Ningrum, Katuuk, & Masi, 2018). Early mobilization is carried out through exercises on the bed such as the left sloping right tilt and moving the extremities, thus making the air bubbles move from the lower right up to the hepatic plexus, leading to the left spleen flexus and down to the lower left towards the rectum. This can expel the flatus expenditure and stimulate intestinal peristalsis.

Early mobilization is an important aspect related to the patient's physiological functions because it is essential to maintaining independence. Early mobilization is an effort to maintain independence as early as possible by guiding the sufferers in maintaining their physiological function. The concept of early mobilization originates from early ambulation, which is a gradual return to the previous mobilization stage to prevent complications (Windiarjo, 2010).

Early mobilization in patients post-caesarean section is a non-pharmacological therapy that can be used to improve peristaltic intestine accelerating flatus time in a post-caesarean section patient. This is in line with (Smeltzer & Bare, 2002), who said that gastrointestinal dysfunction such as postoperative distension, decreased peristalsis and stool hardening can be prevented by increasing hydration and having an adequate level of activity. According to (Iswati, 2010), moving will stimulate intestinal peristalsis to return to normal. Activities will also help speed up the body's organs to work as before and the patients will feel healthier and stronger with early ambulation. With ambulation, the abdominal and pelvic muscles will return to normal so then the abdominal muscles become strong again. This can reduce the level of pain so then the client feels healthy. This can help them to gain strength, accelerate healing (Buhimschi et al., 2007). Moving will stimulate intestinal peristalsis to return to normal. This activity also helps to speed up the organs of the body to work as before.

Most patients still have concerns that if the body is moved into a certain position postsurgery then it will affect the unhealed surgical wound that has just been completed. Almost all types of operations require mobilization or body movements as early as possible. As long as the pain can be restrained and the balance of the body is no longer a nuisance, by moving, the recovery period to reach the level of condition pre-recovery can be shortened. This, of course, will reduce

the time in the hospital, reduce financing and it can also reduce psychological stress (Rahma, Kasim, & Angriani, 2011).

Early mobilization can be affected by an increase in intestinal peristalsis and in post-cesarean section patients in Kendari City Hospital. This is because early mobilization can stimulate the nerves of the sympathetic intestinal muscles, resulting in a wave of intestinal motility with an increase in the sympathetic work of the nerves. This will cause a release of acetylcholine so then there is an increase in acoustic wave conduction along the intestinal wall which can increase intestinal motility.

CONCLUSION

The early intervention of mobilization has an influence on increasing intestinal peristalsis in post-cesarean patients in Kendari City Hospital. Early mobilization interventions can be used as self-care interventions to improve intestinal peristalsis in post-cesarean section patients.

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