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**Foot Reflexology Improves Intestinal Peristalsis in Postoperative Caesarean Patients**

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**ABSTRACT**

The recovery of intestinal peristalsis in post cesarean section patients shows the recovery of digestive system function after receiving spinal anesthesia, so it should be restored as soon as possible. This study aims to analyze the effect of foot reflexology on increasing intestinal peristalsis in postoperative sectio caesarea patients. This study applied a non-equivalent control group design, involving 30 patients. Data on intestinal peristalsis were collected by auscultation, then analyzed using the Mann-Whitney U test. The mean value of the frequency of intestinal peristalsis in the group that received the intervention in the form of reflexology on the soles of the feet was 3.67 times/minute; while for the control group, the mean frequency of intestinal peristalsis was 1.67 times per minute. The results of the Mann-Whitney U test resulted in a p-value = 0.000. This shows that there was a difference in the frequency of intestinal peristalsis in postoperative cesarean section patients between the intervention group and the control group; So it is concluded that reflexology on the soles of the feet is effective in increasing the frequency of intestinal peristalsis in post-cesarean section patients.

**Keywords:** foot reflexology massage; intestinal peristalsis; post sectio caesarea

**INTRODUCTION****Background**

Sectio caesarea is an artificial birth, in which the fetus is born through an incision in the abdominal wall and uterine wall, provided the uterus is intact and the fetus weighs above 500 grams. Most cesarean sections use spinal anesthesia, a regional anesthetic technique by injecting a local anesthetic into the subarachnoid space, with the aim of achieving a certain dermatome-level analgesia <sup>(1)</sup>. Spinal anesthesia can slow down the work of the gastrointestinal system and during the recovery phase, intestinal peristalsis may be heard to weaken or disappear <sup>(2)</sup>.

In caesarean section delivery, supervision is carried out more intensively and carefully, one of which is to assess whether the patient can immediately flatus. Flatus indicates that bowel work has returned to normal and intestinal peristalsis has improved. Normally, intestinal peristalsis is heard 5-30 times per minute, whereas in postoperative cesarean section patients, peristalsis is decreased. The effect of spinal anesthesia on intestinal peristalsis will last for postoperative cesarean section for up to 12-24 hours, so patients are not allowed to consume food before intestinal peristalsis recovers which is characterized by the sound of bowel sounds. The length of recovery of intestinal peristalsis has an impact on constipation <sup>(3)</sup>.

The problem that patients often complain about after cesarean section with spinal anesthesia is the relatively long wait to be able to eat and drink after surgery. The longer the patient waits to get food intake, the longer the recovery period of fitness. Therefore, early restoration of intestinal peristalsis is important <sup>(4)</sup>.

One method to stimulate intestinal peristalsis is foot reflexology. Foot reflexology can stimulate the autonomic nervous system that regulates intestinal peristalsis, so it is beneficial for the recovery of intestinal peristalsis. Sedyarssoli reported that reflexology massage was more effective than abdominal massage for treating constipation. Suarsyaf reported that massage provides benefits to patients with constipation by stimulating peristalsis and decreasing colonic transit time so as to increase the frequency of defecation <sup>(4)</sup>.

A preliminary study conducted on November 26, 2016 at Lavalette Hospital, Malang City on 4 cesarean section patients showed that the frequency of intestinal peristalsis 1 hour postoperatively was 0 times/minute and at 2 hours postoperative it was 1-2 times/minute.

### **Purpose**

This study aims to analyze the effect of foot reflexology on increasing intestinal peristalsis in postoperative sectio caesarea patients in the Recovery Room, Lavalette Hospital, Malang City.

### **METHODS**

This study applies a non-equivalent control group design. The sample of this study was postoperative sectio caesarea patients in the Recovery Room of Lavalette Hospital Malang City from May to June 2017, with a sample size of 30 patients.

Data on intestinal peristalsis from both groups were collected by auscultation and recorded in the observation sheet, then analyzed using the Mann-Whitney U test.

### **RESULTS**

The mean value of the frequency of intestinal peristalsis in the group that received the intervention in the form of reflexology on the soles of the feet was 3.67 times/minute; while for the control group, the mean frequency of intestinal peristalsis was 1.67 times per minute. The results of the Mann-Whitney U test resulted in a p-value = 0.000. This shows that  $H_0$  was rejected, which means that there was a difference in the frequency of intestinal peristalsis in postoperative cesarean section patients between the intervention group and the control group. In the intervention group and post test in the control group. This shows that reflexology on the soles of the feet is effective in increasing the frequency of intestinal peristalsis in post cesarean section patients.

### **DISCUSSION**

The mean value of the frequency of intestinal peristalsis in the group that received the intervention in the form of reflexology on the soles of the feet was higher than the control group. This is related to the theory that when we provide mechanical energy (touch-press) which will be received by the pacini body as a receptor, the impulse will be forwarded to sensory neurons, then sent to the spinal cord and brain as a receiver of information about the external and internal environment, via afferent peripheral nerves and also processing and integrating this input. Then, the spinal cord will send a motor response through the vagus nerve which is then carried by the neurotransmitter acetylcholine and norepinephrine to the parasympathetic autonomic nervous system which will stimulate the myenteric plexus and submucosal plexus. The myenteric plexus will stimulate intestinal smooth muscle to stimulate contraction, resulting in intestinal peristalsis<sup>(5, 6)</sup>. The control group did not get enough stimulus to increase intestinal peristalsis, but respondents were only recommended to do physical exercise by rolling their bodies to the right and left to stimulate intestinal peristalsis. This action is in accordance with the explanation of Potter & Perry<sup>(2)</sup> that early mobilization can affect intestinal peristalsis and improve digestive status back to normal. The disadvantage is, the patient must wait until he is able to do the exercise.

Based on the results of these studies, the provision of foot reflexology massage can be one of the non-pharmacological nursing actions to accelerate the recovery of intestinal peristalsis; while minimizing the risk of complications due to spinal anesthesia, such as abdominal distension, paralytic ileus, bloating, and abdominal discomfort and so on. The faster the recovery of intestinal peristalsis in postoperative sectio caesarea patients, the faster the patient can fulfill his nutritional needs, so that the patient can heal faster and reduce the length of stay of the patient in the hospital.

### **CONCLUSION**

Based on the results of the study, it can be concluded that reflexology on the soles of post-cesarean section patients can significantly accelerate the recovery of intestinal peristalsis; so that this method can be recommended as a potential nursing intervention.

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