

**Coffee Effect on The Bowel Function After The Caesarean Section**

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**Dedication**

Every challenging work needs self-efforts as well as guidance of elders especially those who were very close to our heart.

 Father and Mother,

Whose affection, love, encouragement and prays of day and night make me able to get such success and honor,

Along with the hard working and respected

Dr. Enas Adnan

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**Abstract**

**Objectives**: Postoperative ileus is a common consequence of abdominal surgery, which tends to prolong the duration of hospital stay and imposes considerable economic costs on healthcare system. Coffee is proved to have positive effects on gastrointestinal motility index in healthy young adults. Thus, the present study aims to examine effects of coffee on bowel function after caesarean section.

 **Material and method**: A total number 100 patients after elective caesarean section were randomly assigned before surgery into control and intervention groups. The intervention group received 100cc coffee at 8h after the surgery,First bowel sound, first passage of flatus, first defecation, and length of stay after surgery were compared in the two groups.

**Findings**: Mean time to first flatus passage was recorded in the control (22.54h) and intervention (17.28h) groups and showed to be statistically significant (p = \_0.000). However, average time of first defecation (intervention 37.22h; control 36.82h; p = 0.647) and mean time of hospital stay of patients (intervention 30.08h; control 32.16h; p = 0.518) and first bowel sound (intervention 5.84h; control 6.16h; p = \_0.326) were not statistically significant.

 **Discussion**: Drinking coffee after a caesarean section reduces time to first flatus in patients. Nevertheless, further studies are needed to examine effects of coffee on ileus after elective caesarean section.

Introduction

Postoperative care after caesarean section, particularly gastro-intestinal system care, is highly important. Ileus is a major gastrointestinal complication following abdominal surgeries that causes impaired intestinal motility and may persist between 2 to 5 days, tending to be longer for serious surgeries. Ileus gives rise to many complications and is a primary determinant of post-surgery in-hospital stay [1]. It initiates a variety of symptoms such as abdominal distention, pain, intolerance to oral diet, dependence on parenteral nutrition, inability to breastfeed, and prolongs hospital stay while imposing large economic burden on national healthcare system [2–4]. Caesarean section is a common abdominal surgery showing an increasing trend over the last three decades [5-6]. Ileus is a major complication after caesarean section [7]. it affects 26%–31% of patients which is prompted by a number of factors including drug interactions, opioids and surgical procedures, As well as the large amount of blood and amniotic fluid shed in the peritoneal cavity during cesarean delivery, Measures is done to clean up the peritoneal cavity in the manipulation of the intestines and ileus after it [8]. A host of treatments have been used in clinical trials to prevent or alleviate duration of postoperative ileus, including medications for intestinal motility, early feeding and use of liquids a few hours after surgery, physical treatments, early mobilization, avoiding nasogastric tube, and spinal anesthesia [9,10]. Coffee is a popular global drink and positively affects human body including cardiovascular system and central nervous system, and improves one’s sense of well-being [10]. However, effects of coffee on gastrointestinal function are rarely studied in the literature. Cohn showed that consumption of coffee in young adults has positive effects on intestinal motility index and improves large intestine movements [11]. Similarly, Muller performed a randomized clinical trial on patients with colectomy surgery and reported that coffee accelerates postoperative bowel movement [12]. Considering worldwide popularity of coffee and its positive effects on intestine performance in the literature.

Aim of the study

 the present study seeks to determine effects of drinking coffee on postoperative intestine performance of elective caesarean patients.

Patients and methods:

Patients were sampled from -Imamain AL-Kadhumain medical city before undergoing caesarean surgery in 2018. The following criteria were considered in qualifying patients as participants of the study:

 elective & emergency caesarean section, willingness to participate, no history of diseases such as diarrhea, chronic constipation, irritable bowel syndrome, gastro esophageal reflux, no use of laxative a day before the surgery, and women undergoing general anesthesia.

**Exclusion criteria** :

Patients with gastrointestinal complications, respiratory problems and infections that required medicational interventions, and those with surgeries longer than 90 min were excluded from the study.

Sampling

A total number of 100 patients were taken by sequential and convenience sampling, and were controlling assigned to intervention (n = 50) groups and control group (n=50). Objectives of the study were explained to the patient and informed by verbal consent was taken from them.

Intervention

The intervention plan was performed within the first 24 h after the surgery. patients drank 100cc sugar-free coffee at 8h after the surgery. We used mahmood coffee (10 g per 100cc water) for all the participants, prepared by me . To avoid disrupting patients’ treatment, diet and sleeping, this plan was performed within the first 24 h after the surgery in -Imamain AL-Kadhumain medical city when patients received no food and liquids.

 Data collection

 The present study investigates effects of coffee after caesarean section. Thus, first bowel sound, first passage of flatus, first defecation were collected from intervention groups and the control group (no coffee intake) . Demographic information were taken .

Results

A number of 50 participants were assigned to each control and intervention group. Demographic information of patients is given in Tables 1 quantitative variables of age, length of surgery, number of pregnancies, number of deliveries, gestational age, length of preoperative fasting.Table 2 demonstrates subscales of intestinal performance and shows significant difference between two groups in first flatus passage. It also shows that first bowel sound was recorded at 6.16 h and 5.84 h for control and intervention groups, respectively, which was statistically insignificant (p = 0.326). The first passage of flatus in intervention group (17.28 h) occurred 5 h earlier than control group (22.54 h) and was statistically significant (p = 0.000). First defecation was recorded at 37.22 h for intervention group and at 36.82 h for control group, showing no significance (p = 0.647).Results of p-value show no significant difference for first bowel sound between control and intervention groups (p < 0.05) but first flatus passage was significantly different (p < 0.0001), implying that coffee facilitates and accelerates first flatus passage. First defecation showed no significant difference (p < 0.05).

Table 1 : Comparison of quantitative variables in both intervention and control groups

|  |  |  |  |
| --- | --- | --- | --- |
| variable | Control group Mean | Intervention group Mean | P-valuea |
| Age  | 28.46 | 28.22 | 0.820 |
| Operation time (min) | 51.60 | 52.24 | 0.710 |
| No. of pregnancy | 2.06 | 1.78 | 0.610 |
| No. of delivary | 0.94 | 0.7 | 0.555 |
| Gestational age | 38.7 | 38.6 | 0.710 |
| length of preoperative fasting(h) | 12.84 | 13.1 | 0.457 |

Table 2 : compares the average scores first bowel sounds the first passage of flatus and first defecation.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Control group Mean | Intervention group Mean | P-value |
| The first time bowel sound (hours) | 6.16 | 5.84 | 0.326 |
| The First time flatus passage (hours) | 22.54 | 17.28 | 0.000 |
| The First time defecation (hours) | 36.82 | 37.22 | 0.674 |

Discussion

 Caesarean section is a common surgical procedure. Ileus is a common postoperative complication that causes pain and abdominal distention. The present study examines effects of coffee on post-caesarean ileus. Our results indicate that mean time to first bowel sound was shorter for intervention group than control group because coffee when enter the body system cause colonic and intestinal muscle movement this advance the contents of the intestine toward the colon in a process called peristalsis, but this difference was not significant. However, Muller [12] studied effects of coffee on ileus after colectomy surgery and stated that time of first bowel movement was considerably shortened and this was statistically significant. In our study, first passage of flatus in intervention group occurred 5h earlier than control group because of increase peristalsis leaves less time for the colon to perfome one of its function-reabsorption water from fecal matter to produce well-formed stool. This is in agreement with the findings of Muller (intervention group: 40.6 h; control group: 46.4 h), and Mohsen-zadeh [13] (intervention group: 24.8 h; control group: 30.0 h) who investigated effects of chewing gum on postoperative ileus [14]. The first defecation in our study showed no significant difference in the two groups and is inconsistent with results of Pirik [17] working on effects of tea and coffee on postoperative ileus. This difference may be due to different surgical procedures applied in the two studies.

 Our results indicate that consuming coffee after elective caesarean section contributes significantly to faster restoration of intestinal function.

 Coffee is a popular drink and can be used as an alternative to postoperative ileus-related complications. The study faced some limitations as there was no similar study on effects of coffee on post-caesarean ileus. Further, it was limited to first 24 h after the surgery as patients were discharged early, mostly on the second day after surgery. It is suggested that further studies take a larger sample with longer coffee treatment and a different protocol to see its effects on postoperative gastrointestinal

**Conclusion**

Coffee affect the bowel function after the c/s in form of accelerate time of flatus, decrease the time for bowel sound and didn’t has effect on defecation.

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