Effect of olive oil massage on postoperative cesarean pain and sleep

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The aim of the study is to assess the effect of olive oil massage on post-operative cesarean pain and sleep quality. Design: randomized controlled trial. Sample: simple random sample of two hundred primiparous women was recruited in the study. The inclusion criteria was women who can read and write, their age ranged between 15-38 years, undergoing elective cesarean with spinal anesthesia, term pregnancy, have intact skin in the massage areas (i. e. scalp, neck, upper shoulder, hands and feet), no history of olive oil sensitivity, full consciousness after the surgery, willingness to participate, free from any medical disorders and post- cesarean section complications. Procedure: massage took place 8 hours post- cesarean section operation. Olive oil (5 ml) was applied for massaging each part of the woman's body (i. e. scalp, neck, upper shoulder, hands, and feet). Results: there were statistical significant differences between the study and the control groups related to levels of the post-operative cesarean section pain and fatigue after olive oil massage (p ≤0. 05). Further, there were statistical significance differences between both groups related to mean of total sleep disturbance (t=-12. 07, p≤ 0. 0001) and total sleep effectiveness (t= 15. 77, p≤ 0. 0001). Conclusion: Olive oil massage may act as positive intervention in managing the post-operative cesarean pain and sleep disturbance.

Key Words: Olive Oil- Massage- Postoperative Cesarean Pain- Sleep Quality-RCT.

Introduction

Cesarean section pain delays mothers' contact with their newborn, besides interferes to take proper breastfeeding position, self-care, newborn care and

to carry out the essential daily activities (Abbaspoor, Akbari, and Najar, 2014). Further, after cesarean section, women usually experience worsening in their total sleep hours. Wound pain, uterine contraction pain and frequent breast feeding are leading factors of sleep complaints (Manjurai & Latheef, 2016). In order to resume the energy and engage with the routine daily activities, the main requirements are free from pain and adequate sleeping. Sleep adequacy improves tissue restoration and immune system functions (Sook, etal. 2013). The new modalities in medical intervention today are integrating the medical therapy with the alternative and complementary one. One of the important cost effective and applicable alternative therapy is massage. Massage affects different body systems and their functions positively. Recently, massage is defined as a type of aero-hydropathy. Massage helps to improve local and general circulation, promote immunological function, enhance natural healing ability and maintain homeostasis (Nelson, 2015). Many researches addressed the effect of massage alone, and with the essential oils for intervening pain and enhancing quality of sleep. But up till now, there are few scattered researches evaluated the effect of massage with olive oil. Olive oil is one of herbal products of its known history in the traditional medicine. Olive oil acts as pain killer, anti-inflammatory agent, besides its tranquilizing properties (Chauhan, Rani and Bansal, 2016). Nurse has an important and integral role in early post cesarean section intervention. The main role is helping post cesarean section women to restore their energy in order to adapt to new motherhood responsibilities.

Aim

To assess the effect of olive oil massage on post-operative cesarean pain and sleep quality

Hypotheses

1. Olive oil massages will minimize post-operative cesarean pain intensity of primiparous women.

2. Olive oil massages will improve sleep quality of post- cesarean primiparous women.

Postoperative caesarean pain

It is an acute pain as a result of surgical procedure, present on the day of the caesarean section and persistent for 18-24 hours. It is triggered by changes position of the supine to a sitting upright (Peter, etal. 2013).

Materials and Methods

Design

Randomized controlled trial

Setting

The present study was conducted at El Kasr Aini, Cairo University maternity hospitals, at the postnatal unit.

Sample

Simple random sample of two hundred primiparous women was recruited in the study. The inclusion criteria was women who can read and write, their age ranged between 15-38 years, undergoing elective cesarean with spinal anesthesia, term pregnancy, have intact skin in the massage areas (i. e. scalp, neck, upper shoulder, hands and feet), no history of olive oil sensitivity, full consciousness after the surgery, willingness to participate, free from any medical disorders and post- cesarean section complications. The sample size has been determined utilizing sample equation based on the daily numbers of cesarean section operations. Sample size was determined with a risk of type I error of 5% and a power of 80%.

Recruitment of the participants

In order to conduct correct randomization, randomization was done by the following three steps; first, identifying the total number of women who admitted in the operation room in one day from the operation's time table notes. Second, listing the mothers who met the inclusion criteria. Third, determining and ordering the hospital's numbers wrote on the women admission paper. Woman who had an odd number on her admission paper was included in the study. Further, sealed envelopes with numbers from one to two hundred were utilized for random assignment. Allocation concealment was approached through a trained professional researcher; figure (1) demonstrates women flow across the study.

Ethical considerations

Written permission was obtained from the administrative authorities of maternity teaching hospital. The aim and the study procedure were explained. Consent was obtained. Confidentially of data was considered, and participants were identified in the computerized database by numbers.

Tools and measurements

1. A structured interview schedule includes socio-demographic and obstetrical data.

2. Sleep Scale (Verran and Synder-Halpern, 1987): it was designed to assess the sleep quality of the last 24 hours of hospitalized persons; those without pre-existing difficulties of sleep. The VSH assesses two main branches of sleep experience; 1) disturbance and 2) effectiveness for a total of 8 questions. Each question rated from zero to 10 (a total range of 0–80). High score indicates worst sleep for the sleep disturbance and best sleep for the sleep effectiveness subscale. The reliability coefficient of the scale was 0. 82. Factors analysis and correlation showed validity.

3. Visual Analogue Scale for pain (Huskisson, 1974): it is a line of 10 cms marked from zero (no pain)to 10cms (worst pain). The respondent was requested to mark among the two extremes that best described the degree of pain intensity being experienced at that moment. The VAS possesses both concurrent validity and discriminate validity (Gift, 1989).

4. The Fatigue Severity Scale (FSS): it is likert scale of7 points to assess the fatigue effects on daily activities. The scale consists of nine statements; each

statement should be rated from one to seven and women were asked to check on the suitable number. A value of one indicates strong disagreement with the statement, while a value of seven indicates strong agreement. A total score of less than thirty six suggests no effect of fatigue on women activities. Moreover a score of thirty six or more indicates that further medical intervention is needed (Lauren, etal. 1989).

5. Olive oil: it is one of herbal products; it is composed of 98% triglycerides, which includes predominantly mono-unsaturated oleic acid which has been established to be vital for skin maintenance (Kapellakis, etal. 2008). In the present study, it was used without dilution or any additions. The researchers get the original olive oil from the pharmacists.

Interventions

Data collection procedure took place between September 2017 to February 2018. The present study was based on the gate control theory of Melzack and Wall (1965). They propose that pain impulses can be manipulated and inhibited through closing the gate. It hypothesized that massage might be compelling in shutting the gate. Massage interferes with the transmission of noxious stimuli and modifies the perception of pain (Adams, White and Beckett, 2010). Massage took place 8 hours post- cesarean section operation. In the study group, woman was helped to get out from bed. Woman was supported by a pillow behind the back and two stairs for legs (i. e. in order to sit in a proper, comfort position). Olive oil (5 ml) was applied for massaging each part of the woman's body (i. e. scalp, neck, upper shoulder,

hands, and feet). Massage was applied by rotational friction movements, grasping teach part of hands(i. e. from the wrist to fingers) and feet without focusing or pressuring on a certain point (20 minutes, five minutes for each part) using the fingers' palm. Friction was applied for neck and shoulder (for 10 minutes, five minutes for each). Additional five minutes scalp massage had been provided with gentle circular, upward and downward directions. The total amount of oil consumed in the massage session was approximately 35 mls. while the total duration of session was 35 minutes. The control group received the routine hospital care. The study and the control groups were assessed for pain intensity sleep quality and fatigue level. Pain intensity was assessed before massage and immediately after massage. Also, two times assessment of fatigue were done before massage and next day intervention. While sleep pattern was assessed once, next day intervention. Phone calls have been utilized for fatigue and sleep quality assessment for women who discharged before conducting the second interview.