Abdominal Binder Use Increases Ambulation and Decreases Pain in Women After Cesarean Section

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BACKGROUND

Women undergoing cesarean delivery (C-section) report more pain with activity than those who had a vaginal delivery (p < 0.0002) (Hardy-Fairbanks, Lauria, Mackenzie, & McCarthy, 2013). On postpartum day 2, women after C-section reported significantly more pain when compared with those with a vaginal delivery (p < 0.048), which requires additional analgesia medications that can interfere with involvement in baby care activities (Hardy-Fairbanks et al., 2013). Additionally, the increased pain is not associated with demographic or clinical characteristics (i.e., age, prior birth experiences, prior pregnancies); it is only significantly associated with cesarean delivery (p < .001) (Dunn & O’Herlihy, 2005; Granot, Lowenstein, & Yarnitsky, 2003; Pan, Coghill, & Houle, 2006). While narcotic and non-narcotic analgesia (i.e., Dura morph and Ketorolac) are routinely used and found to reduce pain significantly after C-section, pain associated with activity can be an important problem for a new mother who may need to care for her infant and other children immediately postpartum. Additionally, sleepiness or exacerbation of fatigue caused by increased analgesia use can also be a source of frustration and lead to women choosing to refrain from optimal pain control to minimize medication side effects (Tully & Ball, 2014). Offering non-pharmacologic interventions (i.e., abdominal binders) to decrease pain after C-section would complement the analgesia effects of medications.

Abdominal binders are identified in the non-professional literature as an effective intervention to improve ambulation and decrease pain. Pregnancy websites (i.e., www.webmd.com/baby/friction), they advocate more frequently and for longer duration compared to the women after C-section that do not use abdominal binders. PubMed, CINALH, EMBASE, and the Cochrane databases were searched for all published articles from electronic database from 1990 through March 2014. Common to each database were the search limits of English language publications, human studies. Inclusion criteria for articles included primary research in women who have had cesarean sections for childbirth. When the search did not reveal articles, further searches were completed with the key words “abdominal binder” and “abdominal surgery.” The ProQuest Dissertations Abstract database was also searched for doctoral dissertations to address publication bias within the results of the other database searches.

Three articles were identified that examined the use of abdominal binders to decrease pain and increase ambulation after abdominal surgery. Abdominal binders were consistently associated with decreased reports of pain, and increased ambulation (Cheifetz, Lucy, Overend, & Crowe, 2010; Larson, Ratzer, Davis-Merritt, & Clark, 2009; Olsen, Josefson, & Wiklund, 2009). Additionally, an improvement in pulmonary function with subsequent decreased anasthesia was identified as a serendipitous benefit of abdominal binder use related to the “splinting ability” to support deep breathing (Larson et al., 2009).

OBJECTIVES

Nurses on the post-partum unit noted that when abdominal binders were offered and used by women after C-section, they ambulate more frequently and for longer duration compared to the women after C-section that do not use abdominal binders. It is also noted that the women after C-section that do not use abdominal binders report more constipation and gas pain, that is attributed to less frequent ambulation. Additionally, decreased ambulation places patients at risk for the women after C-section, a standing order was written to allow the nurses to offer the binder starting the project.

The project was approved by the NWH IRB as exempt from informed consent (IRB #11-008) because the project met the Health and Human Services requirements for waiver of informed consent (i.e., the only record linking the subject and the data collection would be the consent document, the project presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside the research context).

PROJECT IMPLEMENTATION

All women after C-section were offered an abdominal binder before the first post-operative ambulation (i.e., approximately twelve hours post-operative).

• The abdominal binder would be placed on the patient while lying down, and proper body mechanics for ambulation will be taught to the patient.
• Data were collected
• On both women who choose to wear an abdominal binder and those that did not choose to wear an abdominal binder
• Baseline at abdominal binder placement or when offered and refusal
• Approximately 24 hours post-op (i.e., 12 hours after binder offered)
• Then every 12 hours until discharge.
• Data collection forms were de-identified

DISCUSSION

Based on the data from this project, the use of an abdominal binder appears to be a beneficial option to support patient ambulation and pain management. Women wearing abdominal binders experienced significantly improved pain and increased ambulation, especially within the first 12 hours after C-section. The women consistently reported that the binders made them feel more confident and comfortable. There were no changes noted in any incisional assessments from baseline with a binder. When women were offered the binders more than 95% consented to using a binder. Additionally the women who had a repeat C-section told the team that they wished they had a binder at the prior C-section. These positive results suggest improved post C-section mobility and improved post-operative recovery with decreased risk of DVT or Ileus due to increased ambulation.

Based on the project results, offering abdominal binders was included as a standing order in the standard of care for women after C-section and has become the standard of practice for women after C-section as a non-pharmacologic, complimentary intervention to decrease pain.

REFERENCES


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