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The Efficacy of Cold Therapy as an Alternative Pain Relief Method for Postpartum Discomfort: An Integrative Review of the Literature

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The Efficacy of Cold Therapy as an Alternative Pain Relief Method for Postpartum Discomfort

An Integrative Review of Literature

Background:

The incidence and prevalence of perineal trauma has been well documented worldwide and is associated with acute and chronic perineal pain in postpartum women. Sources of perineal trauma include naturally occurring tears, episiotomies, vaginal lacerations, and injury to the external genitalia. Consequently, perineal pain has been shown to contribute to maternal morbidity, affecting sexual, bowel and urinary function; mobility; mother-infant bonding; breastfeeding; and infant and self-care in the short-term and is associated with depression, irritability, fatigue, dyspareunia in the long-term. Due to the associated morbidity of perineal pain it is essential that postpartum perineal pain be addressed holistically and through various modalities.

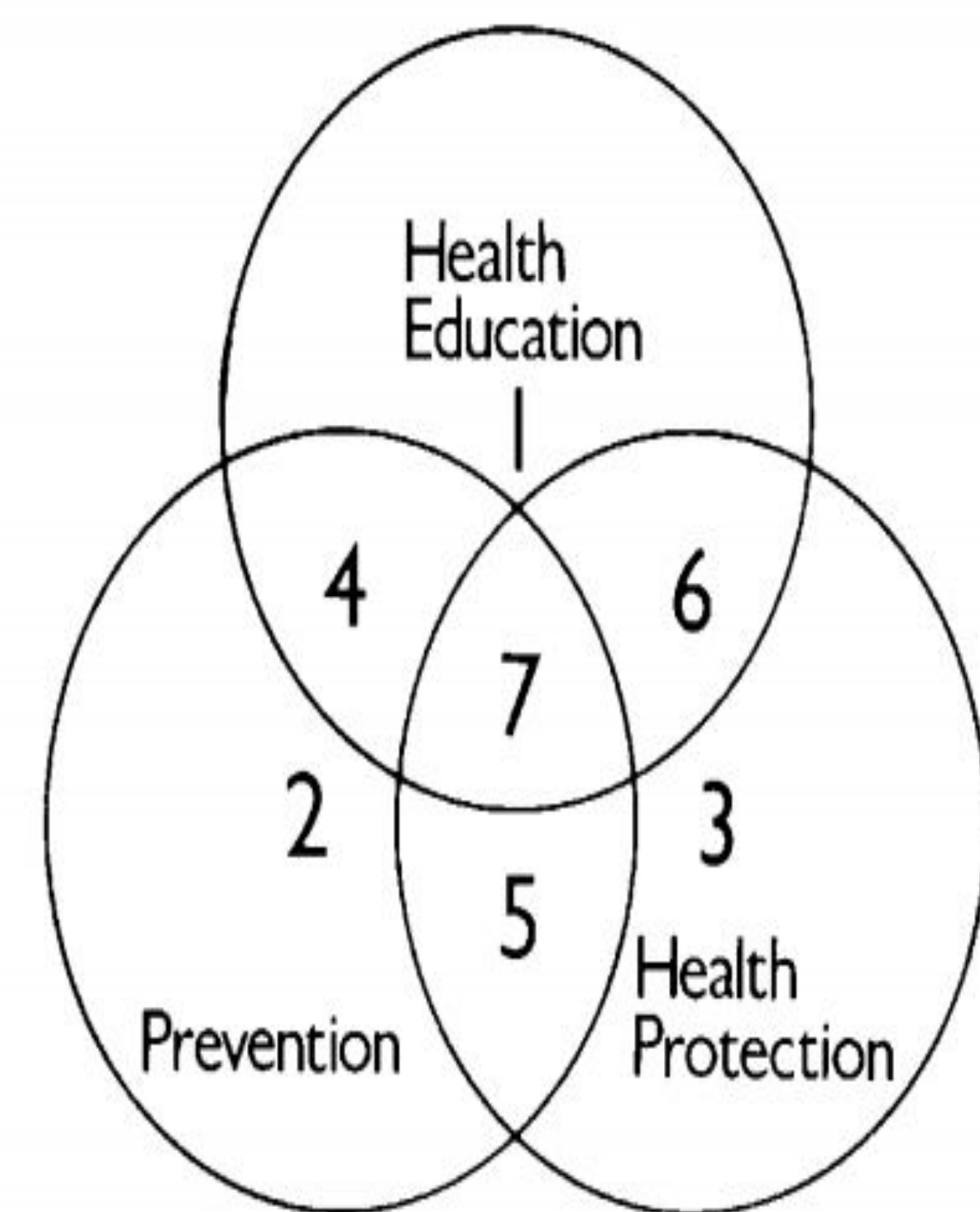
Problem Statement:

Although cold therapy is used in practice, there is a gap in the literature pertaining to its efficacy and guidelines for standardization for safe and effective use. It has been noted that perineal pain following a vaginal delivery lacks appropriate research and clinical attention. Perineal pain is often underreported and underestimated by new mothers and healthcare professionals.

Research Questions:

1. Is cold therapy an effective way to provide perineal pain relief to new mothers in the puerperal period?
2. What is the optimal time for cold therapy application?

Conceptual Framework



In 1985 Andrew Tannahill proposed a model of health promotion consisting of three overlapping areas of action: (1) health education; (2) prevention; and (3) health protection. He defined health education as a means to enhance the health of groups or individuals by influencing their knowledge, beliefs, attitudes, and behaviors. Nurses can educate their patients on the expected perineal pain following vaginal delivery and provide education about safe and effective pain relief. While perineal pain is oftentimes unavoidable after childbirth, nurses can prevent the complications of untreated pain following childbirth by having pain relief methods available immediately following delivery and frequently assessing pain levels. Finally, nurses can influence unit policy through quality improvement projects regarding postpartum perineal pain and maternal outcomes.

Methods:

An online search of the literature was conducted using PubMed, Cumulative Index to Nursing and Health Literature (CINAHL) Complete, and ProQuest Nursing & Allied Source. Several keywords and combinations were used in the search. These included: *postpartum period*, *pain management*, *postpartum*, *pain*, *ice*, *cold therapy*, and, *cryotherapy*,

Inclusion Criteria: The sources reviewed were limited to articles published in the last five years (2013-2018) to include the most relevant data. Articles that were selected had to be of original study design, be peer-reviewed, have a nursing or medical concentration, and be available in the English language.

Exclusion Criteria: A title review was conducted and articles that did not pertain to the use of cold therapy as a pain relief method in the postpartum period were also excluded. Additionally, articles that used cold therapy as a pain relief method for caesarean suture pain and breast engorgement were also excluded. Duplicates were also excluded

Results & Discussion:

All except one the studies reviewed found that pain scores were reduced with 20 minute cold therapy applications. Of the studies that found perineal pain to be reduced or relieved, two studies of one 20 minute cold therapy application, reported pain relief persisted for up to two hours post application. Belezza et al., (2017) reported pain relief persisted even after perineal temperature increased to near baseline temperature one hour after application. Senol & Aslan (2017) also found statistically significant differences in pain reduction scores between the control and experimental group after the first and second 20 minute cold gel pack application. Lu et al. (2015) also found a decrease in pain intensity in the experimental group compared to the control group at the 48-hour mark. These two studies also measured pain scores during activities, such as sitting, walking, bathing, and breastfeeding, and found the experimental groups to have higher levels of pain management.

With any medical intervention, there are risks associated with cold therapy. Although none of the studies selected reported any adverse effects of the use of cold therapy for perineal pain, it is worth noting that adverse effects can happen and must be monitored closely. Providers should assess for pain, burning, prickling, or numbness that is associated with rapid cooling of the perineum or prolonged application of cold therapy to the perineum. Application longer than recommended and at shorter intervals, can lead to disruption of circulation to the targeted tissue due to vasoconstriction, which can cause burns, anesthesia, and tissue necrosis.

Due to the limited research of cold therapy, there has been no standard of practice created surrounding the effective and safe use of cold therapy in the postpartum period. Further studies should be conducted to evaluate the most effective application time, interval, and duration of cold therapy to create safe protocols.

Nursing Practice Implications:

Pain related to perineal trauma can persist for up to three months and can influence how one adapts to new motherhood. This makes it imperative for nurses to use multiple pain relief methods that include pharmacological and nonpharmacological interventions. Although limited, the research has shown that one 20 minute application is effective in reducing perineal pain in the postpartum period

With the ease of use and availability of ice packs to both the nurse and the patient, cold therapy can be used as an effective adjunct to pharmacological analgesia. Nurses should routinely offer this intervention to patients in the postpartum period who have had a vaginal delivery to further enhance pain relief. As with all nursing interventions, the nurse should implement the nursing process of assessing the appropriateness of cold therapy, creating a nursing diagnosis, safely planning and implementing the use of cold therapy, and evaluating the effectiveness of cold therapy.

