

## Effectiveness of Hot Versus Cold Compress for Reducing Intravenous Tissue Infiltration



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### Abstract

Insertion of intravenous devices, if failed cause damage of endothelial layer of blood vessels. Over flexion of extremities may cause the fluid to go outside from the vein and cause swelling to the surrounding tissues. Hence, a study was conducted on the patients who were admitted in the Swahid Mukunda Kakati Civil Hospital, Nalbari, Assam having intravenous fluid being administered and developed tissue infiltration. The aim of the researcher was to determine the comparative effectiveness of hot versus cold compress in reducing intravenous tissue infiltration. The pre experimental research approach with times series design was adopted for the study. The study was approved by the institutional ethical committee. The study was conducted on 30 samples (15 for hot compress and 15 for cold compress). Data were collected after obtaining administrative approval. The subjects of hot compress group was maximum in the age group of 20 to 30 years (66.67%), male (53.33%), educated up to class VI to X (46.66%), diagnosis with lower segment caesarean section (33.33%), and degree of infiltration 2.67 mean score. On the other hand, in cold compress majority was 31 to 40 years of age group (46.67%), male (66.67%), illiterate group (53.33%), diagnosis of anaemia (26.66%) and degree of infiltration 2.47 mean score. A significant association was found between both the applications (hot & cold) and selected clinical variables (size, duration of cannula). Both (hot and cold compress) groups were highly significant with df 14 at  $p \leq 0.05$  level of significance for reducing the degree of intravenous tissue infiltration of day-1, day-2 and day-3. There was no comparative effectiveness of hot versus cold compress for reducing intravenous tissue infiltration on day-1, day-2 and day-3 at 0.05 level of significance. But from the verbalization of the patients hot compress was more effective than the cold compress in reducing pain, edema and skin blanch.

**Keywords:** Hot compress, cold compress, effectiveness, infiltration, extravasations, intravenous tissue infiltration, Intravenous (IV).

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### Background

Intravenous infusion is the free flow administration of fluid in large volume into the body through a large size vein. The intravenous devices may fail to insert into the vein which may further damage the blood vessel wall and it may go outside of the vein, which causes damage to the surrounding tissues. The complications of intravenous therapy that can be prevented and naturally treated is by giving nursing care without use of medication. But, practically it is found that when intravenous tissue infiltration develops, thrombophob ointment is prescribed if patient complains, otherwise they are helpless and

neglected on the part of nursing care. (Brunner & Suddarths, 2012)<sup>1</sup>

When the cold compress was applied (Larson, 1985)<sup>2</sup> for 15 minutes four times daily for three days the result found that ninety-nine percent required no further treatment for intravenous tissue infiltration. The cold compress does not actually reduce the skin ulceration caused by fluid insertion but reduces infiltration of drugs and significantly improves patient's comforts by reducing pain.

Some cytotoxic drugs, hyperosmolar agents, and vasoactive drugs are associated with greater risk of tissue

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