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Isothermal Dialysis to Control Hypotension and Comfort Level

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Problems: Intradialytic hypotension (IDH) is a common complication of hemodialysis and affects 50% people who are being treated for end-stage renal disease. Using thermal control of dialysate to improve IDH has been effective based on multiple studies over the past 25 years. Most studies were specific to the outpatients but not an acute care setting. The frequency and severity of thermal-related symptoms were generally reported inadequately.

Purpose:

- To determine if thermal control of dialysate improves intradialytic tolerance in hypotension prone patients in an acute care setting,
- To describe the patient comfort issues associated with thermal control,
- To evaluate if the thermal control affects IDH and patient comfort.

Sample: Convenience samples of dialysis patients admitted to hospital during the study period who were 18 years of age or older with medically stable condition and ability to give consent.

Design: A quasi-experimental design

	Comparison group (Standard dialysis)	Study group (Isothermal dialysis)
Cases	N=86	N=88
Patients	Non-IDH	IDH Prone
Dialysate temperature	37 °C	Pre-treatment body temperature

Results:

- No significant changes between groups on blood pressure or Comfort level (*t* test);
- Complaints of cold 2/3 times more frequent with isothermal dialysis group.

Conclusions:

- More cold complaints with isothermal dialysis but manageable with nursing interventions and were not a significant cause of discomfort;
- Thermal control was not associated with change in comfort level;
- Isothermal dialysis shows no significant difference, compared to standard dialysis, in controlling hypotension in an acute care setting but clinically important improvements were noted in isothermal group;
- Further research recommended due to comparison group issues.

Relevance: Nursing measures that can improve hypotension for dialysis patient in an acute care setting in a cost effective manner will result in multiple patient and organizational benefit.

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