

A RETROSPECTIVE STUDY ON
HYPOTHERMIA AND MORTALITY IN TRAUMA VICTIMS

AN ABSTRACT OF
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ABSTRACT

This retrospective study was designed to support the hypothesis, "hypothermic trauma victims sustaining life-threatening injuries are less likely to survive than nonhypothermic trauma victims sustaining life-threatening injuries."

Seventy two records, randomly selected from the trauma registry listing, were reviewed and classified as hypothermic (n=29), or nonhypothermic (n=43). The data collection instrument, designed by this author, was used to record demographic variables (age and gender), temperature, laboratory values, and exclusion criteria. A pilot study done on 12 records supported that the instrument yielded data pertinent to the statistical analysis. Furthermore, based on the pilot study it was determined that 75 records would be sufficient to yield significant results in testing the hypothesis.

A two way Chi square analysis showed the subjects' outcome to be independent of whether or not the subject was hypothermic $\chi^2(1)=0.03$, $p>.05$. Power analysis indicated that a sample size of 1500 subjects would have been necessary to approach statistical significance. While the hypothesis was not supported by the findings of this study, clinical significance was found regarding rewarming of hypothermic trauma victims. Although data analysis examining the variable of rewarming only approached statistical significance ($p=.08$), clinical significance was evident in that of 23 subjects rewarmed, 20 survived their injuries. Three of the six hypothermic subjects not rewarmed survived their injuries $\chi^2(1)=2.03$, $p=.08$.

These findings suggest that rewarming of hypothermic trauma victims sustaining life-threatening injuries may increase their chances for survival. This may have implications for nursing and institutions alike. When seconds count during the resuscitation and stabilization of trauma victims with life-threatening injuries, temperature measurement, as well as early correction of hypothermia should be a priority. The least invasive, more convenient and most accurate tools for rapid assessment of body temperature should be used.

Further research investigating the relationship between hypothermia and outcome using a larger sample size is recommended. It is also suggested that the role of rewarming in trauma victims relative to outcome be further investigated.