Utilization of Acupuncture Services in the Emergency Department Setting: A Quality Improvement Study

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PROBLEM
According to The Consortium of Pain Task Force White Paper2 inadequate pain treatment and overuse of prescription opioids warrants the exploration of non-pharmacological treatments for pain management.

BACKGROUND
• Patients often present to the emergency department (ED) for pain, with treatment to manage or control pain often varying.
• Acupuncture may help to decrease acute pain experienced by patients seeking ED services.2
  • It originated from Traditional Chinese Medicine.
  • A non-pharmacologic treatment involving the insertion of needles into skin or tissue at specific points within the body.
  • It is used to treat a variety of ailments such as musculoskeletal conditions, neuropathy, and digestive problems.3,4

OBJECTIVE
To assess the utilization and impact of acupuncture in the ED setting for pain management.

METHODS
• We conducted a prospectively designed and retrospectively reviewed quality improvement study.
• Patients ≥ 18 years of age who presented to Aurora West Allis Medical Center ED during 2017 were offered acupuncture services from an acupuncturist based on:
  • Emergency severity index (ESI); highest severity [1] - lowest severity [5]
  • Reason for visit
  • Their physicians approval
• Charts were further reviewed for other demographic and visit characteristics.
• Statistics:
  • Demographic characteristics were described using basic summary statistics.
  • Paired t-tests were used to determine differences in pre- and post-acupuncture pain, stress, anxiety and nausea scores (i.e., no pain [0] - worst pain [10]).
• Multivariable regression models were also constructed.

RESULTS
• A total of 379 patients, mean age 47.5 years and BMI 30.8 kg/m², received acupuncture services.
• Patients were predominately female (68.1%) and White non-Hispanic (77.0%), with an ESI score of 3 (68.9%) or 4 (24.8%).
• Overall, 46.4%, 27.4%, and 1.6% of patients received opioids, an NSAID, and/or Tramadol, respectively, during the ED admission.
• Following enrollment, 86.0% of patients had 8-15 needles placed and 92.6% of patients received either 20 or 30 minutes of needle time.
• Overall, mean length of stay in the ED was 194 minutes, with 10.6% of patients admitted to the hospital.
  • Only 2.1% of patients presented to the ED twice within 24 hours and none received acupuncture services more than once.
  • Following discharge from the ED, <2% received acupuncture services within 30 days.
• All pre/post-acupuncture scores significantly decreased (p<0.001; Figure 2).
  • Increasing patient age predicted improved pain scores (p<0.001).
  • Receiving pain medication in ED was not associated with improved pain scores (p=0.693).
  • Female gender and pain medication administration in ED predicted improved stress scores (p=0.001).

CONCLUSIONS
Patients admitted to the ED experienced significant decreases in pain, stress, and anxiety. Further randomized controlled trials are needed in order to compare patients who are or are not given acupuncture services. While further study is warranted, acupuncture may be an alternative treatment to opioid use during the ED admission.

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