

The Use of Acupressure to Manage Anxiety in Hospitalized Orthopedic Trauma Patients Requiring Surgical Intervention

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Doctoral Dissertation

Intro: Acute Stress Disorder describes the acute stress phase following the exposure of a traumatic event. One specific population at risk for ASD is hospitalized orthopedic trauma patients. Presently, treatment of ASD and its sequelae, such as anxiety, is limited to conventional methods such as cognitive behavioral therapy (CBT) and pharmacologic management.

Aim: The use of complementary and alternative medicine (CAM) to manage health care outcomes, such as anxiety, is on the rise. CAM therapies have been studied for their safety, efficacy and cost efficiency in anxiety reduction and may have a place in the treatment of ASD. Acupressure, a type of CAM therapy, uses manual finger pressure on accepted acupoints. It is considered a form of acupuncture and is hypothesized to release neurotransmitters that contribute to relaxation. It has been previously demonstrated to be without adverse effects. The SEVA acupressure protocol was developed to elucidate a relaxation response, in patients experiencing stress/anxiety. The goal of this study is to determine the utility of the SEVA protocol in reducing anxiety in the aforementioned patient population.

Methods: A convenience sample of 14 patients from an orthopedic trauma center was screened and recruited into the study. Using a mixed methods approach, the Visual Analog Scale-Anxiety (VAS-A) was used to measure anxiety scores before and after the SEVA protocol was administered and; descriptive phenomenology was used to describe the patient's experiences with acupressure.

Results: There was a statistically significant difference in anxiety over time after the SEVA protocol was administered ($f =$, $p <$). Additionally, qualitative results include reports of feeling "relaxed" and "safe."

Implications: Acupressure is an inexpensive, non invasive for management of anxiety in the hospitalized orthopedic trauma patient population. Implications for practice include teaching this protocol to staff as part of daily care for the patient and expanding its use to other patient care areas of the hospital.

The Use of Acupressure to Decrease Anxiety in Hospitalized Orthopedic Trauma Patients Requiring Surgical Intervention



Background

- Anxiety can be a normal experience, however, pathological fear can lead to chronic anxiety disorders, including, phobias, post-traumatic stress disorder (PTSD) and acute stress disorder (ASD) (Kangas, Henry and Bryant, 2007).
- Bergman et al. (2003) recognized that patients involved in stressful situations, such as hospitalizations, may experience a decrease in controllability of events, and as a result have a rise in cortisol levels from emotional responses.
- Kleiger (2002) revealed that an event such as a hospitalization can be perceived as a threat by the brain and thus can cause further harm to patients.
- Presently, treatment of ASD is limited to conventional methods such as cognitive behavioral therapy (CBT), specifically "relaxing" and pharmacologic management (eg benzodiazepines).
- Researchers at the National Center for Complementary and Alternative Medicine (NCCAM, 2008) demonstrated that one-third of American adults were using some form of complementary and alternative medicine (CAM), using multiple therapies to treat anything from squamous cell carcinoma treatments to arthritis pain and emotional needs.
- There is evidence that CAM therapies, when given in addition to conventional care, can improve clinical outcomes without increasing costs (Herman, Craig and Caspi 2005).
- Acupressure, one such form of CAM, has been demonstrated to be safe and effective in a variety of populations and practice environments (Ming, Kuo, Lin, & Lin, 2002; Agarwal et al., 2008; Tsay et al., 2006).
- One hypothesis is that acupressure releases transmitters and is thought to contribute to relaxation (Chu & Tsay, 2004).

Purpose

- The clinical question to be answered was "Does acupressure reduce anxiety in hospitalized orthopedic trauma patients requiring surgical intervention?"

Methods

Mixed Method study

- Quantitative
 - Visual Analog Scale-Anxiety (VAS-A)
 - 100 mm scale
 - Before, just after, 15 minutes after intervention
- Qualitative
 - Phenomenological study
 - Semi-structured interview
 - 15 minutes after intervention
 - Convenience sample
 - Inner city PARR Level Trauma Center

Inclusion criteria

- English speaking adults
- orthopedic fracture requiring surgery
- alert and oriented

Exclusion criteria

- spinal cord injuries
- familiarity with acupressure
- prior psychiatric illness
- current use of anti-anxiety medications

Procedures

- Pre-intervention VAS-A score (Time 1)
- SEVA protocol
- Post-intervention VAS-A score (Time 2)
- 15 minutes rest
- VAS-A score (Time 3)
- Interview

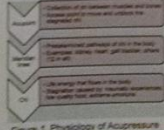


Figure 1. Physiology of Acupressure



Figure 2. SEVA protocol

Results

| Age | 15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
|---------------------|----|-------|-------|-------|-------|-------|-------|-------|
| Gender | | | | | | | | |
| Male | 10 | 88.7 | | | | | | |
| Female | 3 | 14.3 | | | | | | |
| Race | | | | | | | | |
| African American | 3 | 56.3 | | | | | | |
| Caucasian | 3 | 38.7 | | | | | | |
| Mechanism of Injury | | | | | | | | |
| Motorcycle crash | 6 | 42.9 | | | | | | |
| Proximal tibia | 4 | 28.6 | | | | | | |
| Motor vehicle crash | 2 | 14.3 | | | | | | |
| Fall | 2 | 14.3 | | | | | | |
| Diagnosis | | | | | | | | |
| Lower Extremity | 7 | 50.0 | | | | | | |
| Upper Extremity | 6 | 42.9 | | | | | | |
| Both Extremities | 1 | 7.1 | | | | | | |

Table 1. Baseline characteristics of SEVA participants (N=14)



Figure 3. Mean anxiety scores across time points

Physiologic response

- "I feel relaxed"

Expectations of the session

- "I never thought that I would buy into this sort of thing, but I really enjoyed it"
- "It was different than I expected"
- "It was something I probably needed right after my accident"

Perception of the session

- "I felt like I was floating away"
- "I felt like you really cared for me"
- "I think I can be more relaxed today now that you have done this for me"

Table 2. Qualitative Results of SEVA participants

Conclusions

- Through the use of a standardized protocol, a relaxation response was replicated in each patient, regardless of age, gender or race.
- Patients were pleasantly surprised about their experience with acupressure and would use it again if offered.
- By creating an environment of healing and comfort, the intervention allowed the patient to focus on more positive thoughts and experiences that aid in recovery.
- Patients with a sense of hope, self-control, direction, purpose, and identity are better able to meet the challenges of their disease or injury.

Implications for Practice

- Easy to teach, learn and use
- Cost effective
- Non-invasive
- Multiple demographics can experience CAM
- Improvement in nurse-patient relationships
 - Patient empowerment
 - Patient feels in control of emotions
 - Nurse empowerment
 - Nurse participation in role of caring

Future Study

- Feasibility study for integration into nursing care
- Training of bedside nurses to reduce need for restraints in geriatric populations
- Heterogeneous patient population
- Reduction of anxiety in nursing staff
- Measure of other outcomes like pain, patient satisfaction, serum markers and physiologic parameters
- Longitudinal study for lasting effects of acupressure on patients and staff

References

Agarwal, A., Parner, R., Chahal, S., Latta, A., Kumar, M., & Singh, S. (2008). Acupressure for prevention of postoperative anxiety: a systematic review. *Indian journal of physiotherapy and occupational therapy*, 44(1), 44-49.

Bergman, P., Cohen, J., Kaplan, M., Lee, T., Hughes-Jones, R., Parke, A., & Rippe, J. (2003). *Handbook of stress in patients: working with stress*. The National Journal of Trauma and Orthopedic Surgery, 3(2).

Chu, T. T., & Tsay, R. (2004). The effect of acupressure with relaxation on heart rate and depression in patients of end-stage renal disease. *Journal of Nursing Research*, 22(1), 51-54.

Herman, T. M., Gray, S. M., & Caspi, C. (2005). Complementary and alternative medicine—did you get your start in the emergency department? *Journal of Emergency Medicine*, 31(1), 10-14.

Kleiger, M., Henry, J., & Bryant, T. (2007). Comprehension of health stress disorder in trauma patients. *Journal of Trauma Nursing*, 12(4), 10-14.

Kuo, Y. C., & Ming, J. C. (2002). The efficacy of acupressure to control nausea and vomiting in postoperative patients. *Journal of Holistic Nursing*, 24(4), 307-314.

NCCAM. (2008). The use of complementary and alternative medicine in the United States. Retrieved August 1, 2009, from <http://www.nccam.nih.gov/pressroom/pressrelease/080808>

Tsay, S., Wang, J., Lin, K., & Chang, S. (2006). Effect of acupressure therapy for patients' anxiety in a surgical intensive care unit. *Journal of Intensive Care Nursing*, 21(4), 240-245.

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