Aug 18th, 10:00 AM - 11:30 AM

Certified Registered Nurse Anesthetists (CRNA’s) Knowledge and Attitudes Regarding Acupressure as an Adjunct to Postoperative Nausea and Vomiting Prevention

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Abstract

Design: A descriptive survey design was used to assess the current knowledge and attitudes among CRNAs regarding the use of acupressure for PONV treatment.

Methods: 19 of 130 members of the Illinois Association of Nurse Anesthetists completed the survey (15 survey response rate). Overall, participants had adequate knowledge and positive attitudes toward use of acupressure for PONV management. Out of the 14 knowledge and attitude questions on the survey, the items with lowest mean scores indicated deficits in the knowledge on effectiveness of acupressure for PONV treatment (M = 2.83; SD = 5.10), on its impact on surgical outcome (M = 2.72; SD = 6.20), and the enhancement of comfort for patients postoperatively (M = 2.85; SD = 5.11). Among sociodemographic variables examined, female scored higher in overall knowledge and attitudes for use of acupressure for PONV.

Conclusions: Overall, CRNAs have adequate knowledge and positive attitudes regarding use of acupressure for PONV management, but lack knowledge on acupressure effects on patient comfort, efficacy of PONV relief and post-surgical outcomes. Areas of identified deficits were used to create an educational handout for CRNAs to further increase their knowledge and positive attitudes toward use of acupressure for PONV.

Introduction

Problem: Postoperative nausea and vomiting (PONV) continues to be a problem for patients despite multidisciplinary pharmacologic treatments available. There is no current research on the knowledge and attitudes of CRNAs regarding the use of acupressure for PONV.

P4 Meridian: The P4 meridian is located two inches proximal to the distal wrist crease between the thenar and hypothenar eminences. Acupressure is a similar technique to acupuncture, except acupressure uses mechanical or physical pressure instead of needles over specific points of the body. Scientifically, acupressure is thought to stimulate sensory acupuncture, except acupressure uses mechanical or physical pressure instead of needles over specific points of the body. Scientifically, acupressure is thought to stimulate sensory nerves that travel to the brain, specifically the thalamus/hippocampus area.

More Compelling Current Evidence from Literature Review

- 2019 systematic review concluded effect of P4 acupressure stimulation comparable to antinausea medications in preventing PONV.
- 2013 study comparing effect of P4 and metoclopramide found them to be comparable in reducing nausea.
- A prospective, randomized, controlled trial of 172 patients comparing P4 acupressure with placebo for prevention of PONV found no significant difference between groups. In the P4 group, nausea and vomiting scores were lower than in the placebo group. The authors concluded that P4 acupressure is a safe and effective treatment for PONV.

Discussion

- The knowledge and attitude scores across all items were found to be positive with an average mean score of 3.32 out of 5. There were no other studies on this topic found in the literature to which one can compare our results.
- The results of our study indicated that women have a higher knowledge level and positive attitudes toward use of acupressure for PONV when compared to male nurses (M = 3.67; SD = 0.667). Gender was the only sociodemographic characteristic of statistical significance. Since the data set had a normal distribution, we did not further analyze the gender difference.
- Items on the survey with the lowest mean scores for knowledge and attitudes toward acupressure for PONV indicated deficits regarding the effectiveness of acupressure for patients postoperatively and that acupressure is an effective treatment for PONV. Results also indicated a lower mean score on knowledge and attitudes toward acupressure as having an impact on surgical outcomes.
- An educational handout was created and incorporated the knowledge and attitude deficits noted above. The development of this handout was based on the conceptual framework presented below the findings to guide the overall focus of the educational handout.

Results

- There was statistically significant difference in scores between males and females (p = 0.012), with females having higher mean scores than males.

Descriptive Statistics for Knowledge and Attitudes Regarding Acupressure for PONV Scale* (N=109)

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupressure is an effective treatment for PONV</td>
<td>3.90</td>
<td>0.628</td>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>Acupressure is a safe treatment for PONV</td>
<td>3.86</td>
<td>0.518</td>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>Acupressure use can have an impact on surgical outcomes</td>
<td>3.67</td>
<td>0.667</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>Acupressure is a treatment that enhances comfort for patients postoperatively</td>
<td>3.44</td>
<td>0.725</td>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>I discourage acupressure for treatment of PONV</td>
<td>2.90</td>
<td>0.725</td>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>Acupressure is a treatment that alleviates anxiety and discomfort</td>
<td>2.83</td>
<td>0.725</td>
<td>0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*Items with lowest mean scores indicated deficits regarding efficacy of treatment, impact on surgical outcomes, and the enhancement of comfort for patients postoperatively.

Educational Handout

- To be effective, authors suggest that acupressure should be administered before the first emetic episode.

- Acupressure can reduce nausea and vomiting by releasing endogenous beta-endorphins, which has a positive effect on the chemoreceptor trigger zone.

- The P4 acupressure point is located 2 inches proximal to the distal wrist crease between the thenar and hypothenar eminences.

Conclusion

This study found that all study participants including IANA CRNAs and SRNAs have an overall adequate knowledge and positive attitudes on acupressure for PONV management. However, they used lower scores in the area of effectiveness of acupressure in terms of symptom control, efficacy, and impact post-surgery. We identified that further education should focus on the effectiveness of acupressure, and it is necessary to improve pain control and postoperative outcomes. Distribution of our educational handout has the potential to increase knowledge deficits and attitudes deficits identified in the present study and is the first step in bringing this therapy into anesthetics' practice. Additionally, this study provides preliminary evidence for female gender as a factor for a higher overall knowledge and attitudes on acupressure among CRNAs and SRNAs.

Acknowledgements

We would like to thank Dr. Pamela Schwartz CRNA, DNP, committee chair, and Dr. Young-Mee Lee RN, PhD, committee member for their tremendous contribution to this project. We would like to thank the Joseph Tanenbaum RN, PhD, AMB-SC, FAAN for his assistance with data analysis and editing support.

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