INTRODUCTION and PURPOSE
Postoperative nausea and/or vomiting (PONV) is one of the most common fears patients report when facing surgery. It has been shown to be a major indicator of extended postoperative stays and unplanned admissions, which cost several millions of dollars annually.

So many times, healthcare providers turn first to medications when patients complain of nausea and vomiting. There are potentially adverse drug reactions associated with antiemetics, such as sedation, decreased respiratory status and EKG changes (1). Also, the cost of medications directly impacts not only the patients themselves, but the healthcare industry as a whole.

Although aromatherapy is one of the lesser known alternative therapies in the United States, it is commonly used in the nursing care of patients in the United Kingdom, Canada and Australia (2). The American Society of PeriAnesthesia Nurses (ASPN) recognizes the need for further study of alternative therapies in the treatment of PONV in their 2010 standards (3).

Postoperative day surgery nurses at this not-for-profit, Magnet hospital community decided to rigorously evaluate their practice of using aromatherapy for the treatment of PONV. They recognized a need for a multidisciplinary approach and recruited CRNAs and PACU nurses to the research team.

This study was designed to evaluate controlled breathing alone (CB) versus controlled breathing with peppermint aromatherapy (AR) for relief of PONV in patients receiving general anesthesia for elective outpatient procedures.

METHODS
• Study Design: IRB-approved, single blinded, randomized control trial
• Inclusion Criteria
  - Males and females ≥ 18 years
  - Able to breathe through their nose
  - Capable of verbalizing PONV symptoms
  - Outpatient laparoscopic, ENT, orthopedic or urological procedures
  - General anesthesia intraoperative with ASA score of I or II
• Exclusion Criteria
  - Nausea and/or vomiting within 24 hours of admission
  - History of alcoholism
  - Allergy to menthol or peppermint
  - Wacke or emergent surgery
  - Pregnant women, children and Department of Correction clients
  - Patients taking disulfiram (Antabuse) or metronidazole (Flagyl)
• Data Collection and Analysis
  - Nausea and/or vomiting symptoms, descriptive ordinal scale (DOS) scores, age, gender, PONV risk factors, hours NPO
  - Descriptive and inferential statistics; significance at 95% confidence level
  - Analysis of subjects experiencing PONV revealed a significant difference (p = 0.045) in history of motion sickness between CB and AR groups with this risk factor being more prevalent among AR subjects

DEMOGRAPHIC CHARACTERISTICS

RISK FACTORS OF STUDY POPULATION

EFFECTIVENESS vs. EFFICACY

POISONING vs. VOMITING

CONCLUSIONS
• Findings showed controlled breathing alone was more effective and efficacious in the treatment of PONV than peppermint aromatherapy with controlled breathing.
• Anderson and Gross (4) found a saline placebo was as effective as peppermint oil or isopropyl alcohol (IPA) and suggested the benefit might be conscious controlled breathing, though it was not studied.
• Research evaluating pharmaceuticals vs. IPA (5,6) did not find medications superior to IPA, but reported subjects treated with IPA experienced increased incidence of PONV after discharge compared with the prolonged effect of the pharmaceuticals.

STUDY LIMITATIONS
• Subject attrition (n=116)
• Research CRNA availability, hospital admission, patient choice, ASA status, medically unstable, protocol deviation, data irregularities, unknown
• Low incidence of PONV among subjects
• History of motion sickness may have contributed to the decreased efficacy and effectiveness observed among subjects

STUDY STRENGTHS
• Study design utilized controlled breathing with at PONV subjects in contrast to most previous research
• A crossover design to evaluate the effect of PONV symptom management
• Study expands research on the use of CB and/or peppermint aromatherapy in the treatment of PONV

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REFERENCES