ANALYSIS ON THE EFFICACY OF AROMA THERAPY TO RELIEVE POST OPERATIVE NAUSEA AND VOMITING: A SYSTEMATIC REVIEW

Diana Pefbrianti, Diana Hardiyanti
Faculty of Nursing, Universitas Airlangga
Email: diana.pefbrianti-2016@fkp.unair.ac.id

ABSTRACT
Introduction: Feeling of post-operative nausea and vomiting is one of the uncomfortable reaction of an operation and all types of anesthetics despite administration of antiemetic. 20%-30% patients feel nauseous and vomiting with moderate to severe scale accompanying general anesthetics. Aroma therapy is known and used as an independent nursing intervention. Aromatherapy is accepted as management for post-operative nausea and vomiting. There have been a number of evidence based practices supporting the use of aroma therapy. The objective of this study is to analyze the efficacy of aroma therapy to relieve post-operative nausea and vomiting. Method: Search of journals was done electronically by using some database, i.e., SAGE, PROQUEST, MEDLINE, GOOGLE SCHOOLAR, SCIENCE DIRECT, SCOPUS, and PICOS framework. Range of year is 14 years (2002-2016). From literature search, 15 articles were selected from 1750 articles found, all of which have controlled group. There are fourteen from fifteen articles comparing aroma therapy and other therapies. Therefore, it used two or more groups to compare with. The rest sees the efficacy of peppermint, IPA, and placebo. Results: Almost all journals found support the use of aroma therapy to relieve post-operative nausea and vomiting. Conclusion: aromatherapy is the correct method to relieve post-operative nausea and vomiting. To improve the next systematic review, the number and homogeneity of aromatherapy needs to take into account and determining one the most efficacious aromatherapy to reduce PONV.

Key words: aromatherapy, post-operative nausea and vomiting

INTRODUCTION
Frequently found complication accompanying an operation is nausea and vomiting (Eberhart L Frank; Lange H; Kranke P; Wulf H, 2006) with prevalence attaining 20% - 30 % (Arjumand Mccracken G; Houston P, 2008). Most patients undergoing risky operation complained nausea and vomiting. According to Arjumand Mccracken G & Houston P, 2008, 70 %-80 % post operative patients complained nausea and vomiting. Then they felt uncomfortable sensation and stress. Inappropriate intervention may lead to fluid and electrolyte imbalance, increased blood pressure, surgical wound stenosis, risk for aspiration, airway track obstruction, bleeding, and lengthy care.

Nausea and vomiting is usually treated pharmacologically such as metoclopramide and droperidol; nevertheless, those medicines result in adverse effects such as anxiety, fatigue, disorientation, extrapiramidal signs, cardiac problems, decreased blood pressure & drowsiness, so it requires close monitoring (Masters SB & Terevor AJ, 2009). Although those medicines have good efficacy, the adverse effects must be taken into account, so non pharmacological remedies can be the correct choice due to its affordability, fewer risks, and acceptability. Non pharmacological remedies commonly used to relieve nausea and vomiting include hypnosis, acupressure & acupuncture. Thus aromatherapy can be given to patients with post operative nausea and vomiting (Montazer S et al, 2004).

Aromatherapy has been an effective remedy to relieve nausea (Chiravalle P,
Aroma therapy is made of oil or other substances used by inhaling steam or applying oil on the skin to help relieve physical and emotional symptoms (Price S.A & L.M. Wilson, 2006). Specifically, peppermint, IPA, or placebo, ginger essence are efficacious to reduce post operative nausea vomiting (Anderson L, 2004; Mohsen AH, 2015; Hunt R, 2012). Aromatherapy contains analgesics and antiemetic (such as peppermint oil and ginger). There are a number of studies conducted by using QueaseEase (Hodge N, (2014); Mcilvoy L, (2015). Isopropyl alcohol is traditional antiemetic proven in the studies conducted by Cronin S, (2015); Hunt R, (2012); Cotton J, (2007); Pellegrini J, 2009; Winston A, (2003); Merrit B, (2002). Bret A. Merit (2002). Isopropyl alcohol is usually used to clean injection site. It is rarely used to relieve post operative nausea vomiting.

This review was carried out to analyse aromatherapy effect on nausea and vomiting commonly occurs in post operative patients.

METHODS

Research design reviewed was not confined on certain design due to limited articles with RCT design. Journal search was done in several online database such as SAGE, PROQUEST, MEDLINE, GOOGLE, SCHOOLAR, SCIENCE DIRECT, and SCOPUS by using keyword aromatherapy, POV, nausea and vomiting in the range of 14 years (2002 – 2016).

From 1750 articles obtained, there were only 15 full text articles meeting the inclusion criteria. Inclusion criteria: 1) intervention given was aromatherapy; 2) samples were adults and children complaining PONV. Inclusion criteria of respondents studied in the reviewed journals: adults (14 journals) and children (1 journal), surgical procedure with general anesthetics, regional or sedation anesthetics, inpatients, or outpatients, and those on aromatherapy treatments.

Non surgical patients (medical, oncological) were excluded. Aromatherapy is used by inhaling it to relieve post operative nausea and vomiting. Instruments used as PONV parameter include: 4 articles using VNRS (visual nausea rating scale), 2 articles using VAS (visual analogy scale), 2 articles using VDS (verbal description scale), 2 articles using DOS (description ordinal scale), 1 article using BARF, and 1 article using Likert scale.

RESULTS

Design reviewed is 11 randomised control trial (RCT), 3 Quasy Experiment and 1 prospective exploratory study. All journals reviewed explain efficacy of aromatherapy to post operative nausea and vomiting (PONV), 2 journals review efficacy of each type of aroma therapy (peppermint, IPA, or placebo). The other 13 journals compare one type of aromatherapy with one type of antiemetic.

Aromatherapy is given by inhalation. Studies were conducted in several countries which include USA (10 journals), Iran (1 journal), Australia (1 journal), Canada (1 journal), Carolina (1 journal), and Korea (1 journal). All studies were done on patients undergoing surgery aging 4 as of 16 years old (1 journal), and more than 18 years old (14 journals).

A study conducted by Lynn A et al (2004) on 33 surgical patients complaining nausea and vomiting in PACU room (Parianesthesia Care Unit) after measuring nausea and vomiting with VAS (visual analogue scale), patients used aromatherapy with isopropyl alcohol, peppermint or saline. Overall, scale of nausea decreased and patients were satisfied (86,9%).

Cronin S (2015) studied 121 patients with post operative nausea randomized into controlled group and intervention group in which the controlled group was given placebo and the intervention group was given aromatherapy. The result shows that
aromatherapy is more efficacious than placebo ($P < 0.001$)

McIlvoy L et al, (2015) studied 70 patients undergoing abdominal surgery. The patients were taught how to assess nausea scale and were given QE (QuaseeEase) aromatherapy. 25 patients (36%) reported to have PDN (post discharge nausea). Cronin S, (2015) compared affectivity of CB (controlled breathing) with or without aromatherapy (isopropyl alcohol) on patients with laparoscopy surgery. Results of the study shows that, from 82 patients (41 controlled group with CB and 41 intervention group with aromatherapy, both therapies are efficacious to relieve post operative nausea and vomiting.

A study conducted by Lee J, (2016); Winston A, 2003; Farooque D on patients complaining nausea and vomiting performed measurement by using NRS. It obtained that nausea and vomiting scale in the intervention group (aromatherapy) was significantly lower than controlled group. A study conducted by Hunt R, (2012) on patients complaining nausea and vomiting in PACU with 73 respondents using normal saline, 78 respondents using IPA 70%, 76 patients using ginger oil, 44 respondents using mixture of ginger oil, mint, and capulaga. The result revealed that there was significant change in the level of nausea for mixed aromatherapy ($P < 0.001$) and ginger ($P < 0.76$). Thus aromatherapy is efficacious as remedy for PON (Kimberd M, 2016; Merrit B, 2002; Pellegrini J, 2009).

Sites D et al, (2014) conducted a study by using CB group + aromatherapy (papermint AR) with CB only. The result revealed that CB is more efficacious to relieve post operative nausea and vomiting (62%), but it will be more efficacious if it is combined with AR. A study conducted by Mohsen A, (2015); Hosseini FS, 2015 found that inhaling ginger aroma can relieve post operative nausea and vomiting. Study conducted by Cotton J et al, (2007) compared the efficacy of aromatherapy (isopropyl alcohol) and ondancetron on female patients with laparoscopy surgery. Nausea and vomiting scale was measured with VNRS (verbal Numeric Rating Scale) in which controlled group was given ondancetron while intervention group was given aromatherapy (IPA). The study found that there was significant difference between the two groups. 91% nausea and vomiting of intervention group decreased. 5 respondents of controlled group was given promethazine for additional medication and only 1 respondent from intervention group ($P = 0.064$).

DISCUSSION

using EPHP (effective public health practice project). The components include: design, sample, blinding technique, data collection, drop out respondent, bias factor, method of quality intervention given and an opinion alysed in the journals.

According to the analysis, 13 journals were categorised strong quality, 2 journals were categorised moderate quality. The number of sample in this research was approximately 33 – 301 respondents aging at least 18 years old, and 1 research aged between 4 – 16 years old complaining post operative nausea and vomiting.

In general, most journals reviewed found that aromatherapy is efficacious to relieve post operative nausea and vomiting. This review can cover research ranging from isopropyl alcohol, ginger oil, QE, peppermint, to other aromatherapy compared with placebo saline, ondansetron, prometazine, or others “antiemetic standard”. All aromatherapies were given through direct inhalation. Studies were conducted on inpatients and outpatients. Variables measured covered efficacy of aromatherapy which include duration of relief, severity of nausea, frequency of nausea and vomiting, the use of antiemetic, and patient satisfaction.

In several studies, aromatherapy (IPA) is efficacious to substitute or reduce the use of antiemetic medication (Kamalipour, 2002), and to briefly relieve
post operative nausea and vomiting for pediatric patients. In two studies (Cotton J, 2007; Winston A, 2003), IPA briefly relieve 50% symptoms of ondansetron and prometazine (Pellegrini J, 2009). Some literatures recommend the use of peppermint aroma therapy to relieve post operative nausea and vomiting (Chiravalle P, 2005; Price S, 2006; Price, 2007). Anderson L, (2004) Anderson found that peppermint aroma therapy is as efficacious as IPA or saline. Those aroma therapies do not have adverse effects. Patients were satisfied with the use of aroma therapy to relieve nausea and vomiting (Anderson L, 2004; Cotton J, 2007; Pellegrini J, 2009; Winston A, 2003).

CONCLUSION AND RECOMMENDATION

In general, aromatherapy can be used to relieve post operative nausea and vomiting. Nonetheless, further studies need to be carried out by specifying the similar aroma therapies.

REFERENCE


