International Conference Social, Technology, Education and Health Science (ISTEHS)
ISSN:
Website: http://proceeding.umpri.ac.id/

EFFECTIVENESS OF P6 -POINT ACUPRESSURE IN PREVENTING POSTOPERATIVE NAUSEA AND VOMITING IN CESAREAN SECTION SURGERY UNDER SPINAL ANESTHESIA: LITERATURE REVIEW

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Abstract
Sectio caesarea is an artificial labor rescue through a surgical procedure that is mostly performed with a neuraxial blockade, namely epidural anesthesia, spinal anesthesia or combined spinal-epidural anesthesia. Spinal anesthesia has several side effects, such as hypotension, hypothermia, bradycardia and nausea and vomiting which are common physiological processes. Postoperative nausea and vomiting (PONV) are defined as nausea and vomiting that occurs within 24 hours of surgery as complications of general anesthesia and neuraxial anesthesia. This can increase morbidity due to dehydration, electrolyte disorders, aspiration, wound pain, pneumothorax, subcutaneous emphysema, esophageal rupture resulting in delayed recovery, increased costs, and patient dissatisfaction. PONV can be treated using antiemetics. However, its use is still limited due to costs and side effects. P6 point acupressure therapy is a self-sustaining nursing intervention for the management of PONV that is easy to perform, controlled, non-invasive, has no side effects that can harm the patient and is cost-effective. The purpose of this study was to prove the effect of P6 point acupressure on nausea and vomiting in patients with post-section cesarean with spinal anesthesia. The method used is literature review. The article comes from an electronic journal database that has been published through Google Scholar 134, Science Direct 13 and PubMed 7. The selected articles are based on full text, open access, in English and Bahasa Indonesia, quantitative research, according to keywords and published in the last 5 years (2019 – 2024). There were 5 out of 154 articles identified as meeting the inclusion criteria. Several research results show the effectiveness of P6 point acupressure therapy in preventing and reducing nausea and vomiting after caesarean section with spinal anesthesia. The application and evaluation of this method is an important contribution in Indonesia in specific clinical settings for the development of more effective and evidence-based nursing protocols.

Keywords: P6 - point acupressure, PONV, caesarean section, spinal anesthesia

INTRODUCTION

Sectio caesarea (CS) can be interpreted as an assisted delivery to give birth to a fetus through a surgical procedure that involves opening the intact abdominal wall and uterus through an incision (Aditama Putri, L. And Mudlikah, 2019). Currently, about 7% of artificial delivery procedures worldwide are performed by CS and the majority are performed with neuraxial blockade, namely epidural anesthesia, spinal anesthesia or combined spinal-epidural anesthesia. Spinal anesthesia has several side effects, such as hypotension, hypothermia, bradycardia and nausea and vomiting which are common physiological processes. The incidence of nausea and vomiting reported in a systematic review study was 27.7% with the highest prevalence in the first 24 hours after surgery (Sarif et al., 2024)

In other studies, post-operative nausea and vomiting occurred in around 30% of surgical patients and in high-risk groups for Post Operative Nausea and Vomiting (PONV) as much as 80% and 1-43% in women with CS under the influence of spinal anesthesia (Sarif et al., 2024). Postoperative emesis describes the occurrence of nausea and/or vomiting in the post-anesthesia care unit (PACU) and during the first 24 hours after surgery. Postoperative nausea and vomiting (PONV) is a common and disruptive complication frequently encountered in the Post Anesthesia Care Unit (PACU) (R. Abdelhak,2024).

PONV is an uncomfortable experience and is associated with significant patient dissatisfaction and can lead to dehydration and electrolyte imbalance, aspiration of gastric contents, esophageal rupture, suture dehiscence and bleeding (Sarif et al., 2024) (Apfel et al., 2012). In addition, the occurrence of PONV is also associated with longer length of stay in the post-anesthesia care unit (PACU), unexpected readmissions, and increased costs of care (Sarif et al., 2024).

There are several approaches taken to prevent postoperative nausea and vomiting, including pharmacological and non-pharmacological (Sarif et al., 2024). Administration of antiemetic drugs in pharmacological therapy given to patients is not satisfactory as monotherapy or combination because it cannot completely improve PONV (Oh & Kim, 2017). Therefore, anesthesiologists try to find some cheap and non-invasive methods to treat postoperative nausea and vomiting such as non-pharmacological therapy, namely using some complementary therapies that refer to their effectiveness (E. Rahmayati, 2017) (Sun et al., 2019).

Non-pharmacological therapies that are used as alternative and complementary treatments to prevent or reduce PONV through modulation of endogenous opioid neuropeptides include hypnosis therapy, imagery relaxation, music therapy, aromatherapy, acupuncture and electroacupuncture, and acupressure (Stoicea et al., 2015). A non-invasive measure to prevent PONV, simple and easy to do by stimulating certain points through massage is acupressure (Gan et al., 2020) (Diemunsch & Kranke, 2019)(Hailu et al., 2022). Acupressure therapy is easy to do by nurses and is feasible to do in post-surgical care room (Gilbert et al., 2017).

Nurses in the implementation of complementary therapy have the opportunity to be involved and other non-pharmacological therapies, especially in hospitals, but this has not been implemented, especially in hospitals in Indonesia for several reasons, including the fact that many hospitals and medical professionals do not have sufficient understanding of acupressure or have not received adequate training, still tend to use conventional medical approaches with the use of anti-emetic drugs because they are easily accessible, and hospitals need additional time and resources to ensure the safety and effectiveness of using

acupressure as evidence-based practice for adjuvant or additional non-pharmacological therapy to reduce post-operative nausea and vomiting (Liem, 2019)(Rini & Achadi, 2019).

Acupressure therapy used to reduce the incidence of nausea and vomiting has been widely studied, both for nausea due to chemotherapy, pregnancy and post-operatively, but many hospitals have not yet implemented this method (Gilbert et al., 2017)(Shaikh et al., 2016). Pericardium acupressure point 6 is considered a key point for reducing nausea and vomiting. The Neiguan point (P6) is located three finger widths proximal to the wrist on the inner forearm, between two tendons (see figure 1) (Kusumaningsih, 2022)(Kusumaningsih, 2022). Ünülü et.al in a study conducted on patients undergoing gynecological surgery other than cesarean section with the application of bracelet acupressure for the first 12 hours after surgery while the control group received antiemetics during and after surgery stated that the application of P6 acupressure was effective in preventing vomiting and its effect on nausea intensity was even better and could improve patient comfort (Unülü & Kaya, 2018).

Based on this background, researchers conducted a literature review on several research journals to find out more deeply about the effectiveness of P6 acupressure therapy in preventing and reducing nausea and vomiting after caesarean section with spinal anesthesia. In addition, this literature review helps in synthesizing empirical research, so that it can identify (1) the P6 acupressure point that can be used to reduce nausea and vomiting after caesarean section with spinal anesthesia (2) risk factors for nausea and vomiting after caesarean section with spinal anesthesia (3) instruments used in measuring nausea and vomiting after caesarean section with spinal anesthesia.

METHOD

This article is written using a literature review method using scientific articles or journals about the Effectiveness of P6 acupressure in preventing nausea and vomiting after cesarean section surgery with spinal anesthesia. The reviewed articles were obtained from the electronic databases Google Scholar 134, Science Direct 13 and PubMed 7, based on the PICOT search technique with the keywords used were acupressure P6 AND post operative AND nausea OR vomiting AND cesarean section AND spinal anesthesia, in the period 2019 to 2024. The journals found were specified based on the inclusion criteria, namely 1) articles published in full text, open access and in English or Indonesian, 2) articles published in the period 2019 - 2024, 3) quantitative research type, 4) articles that have main content about P6 acupressure and post cesarean section nausea and vomiting with spinal anesthesia, 5) samples in the study must be adults or aged >18 years. The search for this literature review journal is described through the search algorithm chart below:

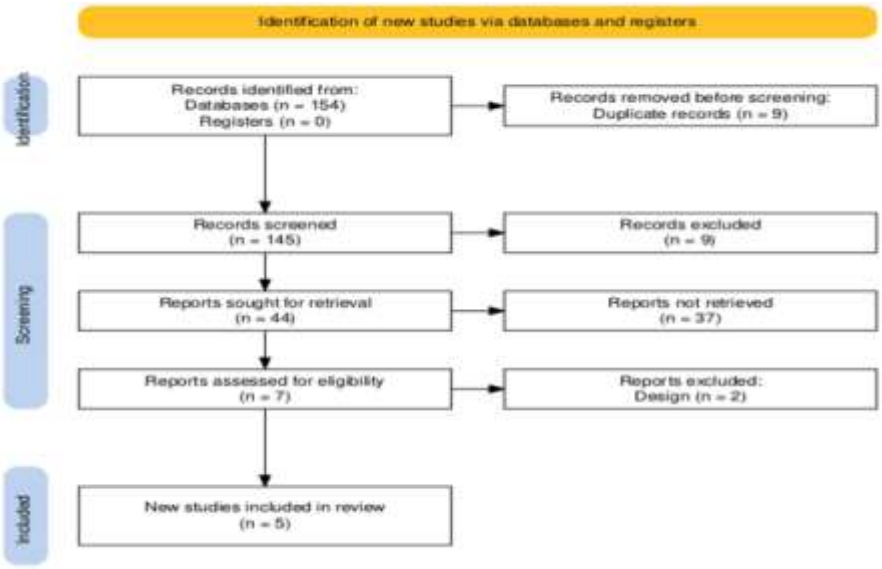

Figure 1
Journal search algorithm chart

RESULTS AND DISCUSSION

RESULTS

Article selection was conducted to support the theory regarding the effect of acupressure to reduce nausea and vomiting after cesarean section surgery with spinal anesthesia. The articles were articles published in scientific journals, open access, available in full text, in English and Indonesian. Articles that met the inclusion and exclusion criteria were analyzed, extracted and synthesized, then the evidence was determined. After selection based on the inclusion and exclusion criteria, 5 articles were obtained, which were then analyzed. The following is a list of 5 articles that were extracted in table for

Table 1.
Results of literature search on the effectiveness of P6 point acupressure in preventing nausea and vomiting after cesarean section surgery with spinal anesthesia.

No	Author	Year	Country	Title	Design	Sample	Instrument	Analysis	Intervention	Results
1	H. Ahmed, N. Mohamed, A. Ghaly	2020	Egypt (EL-Shatby Maternity University Hospital).	Effect of Wristband on Post Cesarean Nausea and Vomiting	Quasi Experimental: prospective study	Nonprobability sampling technique. 80 post-cesarean women, aged between 20 and 35 years	Visual Analog scale (VAS), and Rhodes Index for Nausea and Vomiting (RINV)	SPSS version 20: chi-square test and Fisher's exact test	The use of acupressure bracelets to the P6 acupressure point on the respondent's wrist. The bracelets were applied for 20 minutes, 4 times per day, for a total duration of 7 hours. The pressure was adjusted based on the size of each respondent's wrist.	P6 point acupressure using acupressure bracelets has a highly statistically significant effect in reducing the severity, frequency, and duration of post-cesarean nausea and vomiting compared to the control group. The p-values are all below 0.001, indicating very strong statistical significance.
2	R. Abd Elhak, A. Botla, M. Mohamed et al.	2022	Egypt	Effect of Acupressure on Emesis Post Cesarean Section	Randomized Controlled Trial (RCT) with a pre-test and post-test design.	Purposive sampling. 48 respondents, aged between 25-35 years	Verbal Descriptive Scale (VDS) with 4-point and Simplified Postoperative Nausea and Vomiting (SPONV) intensity	SPSS version 25: Unpaired t-test, Shapiro-Wilk test, Levene's test Unpaired t-test Paired t-test.	Acupressure was applied to the Pericardium 6 (P6) point on the wrist and the Hand Korea k-k9 point on the 4th finger, using an acupressure bracelet and seeds, for 6 hours and relaxed for 10	Acupressure combined with antiemetic drugs is more effective than antiemetic drugs alone in reducing nausea and vomiting after cesarean section. After treatment, the acupressure group (Group A)

							scale.		minutes every hour in the intervention group. Antiemetic drugs (Dexamethasone: 4mg/kg) were given to all respondents.	showed a greater reduction in VDS and SPONV intensity scale compared to the control group (Group B) ($p<0.001$).
3	English: A. M., et al.	2024	Indonesia (Wava Husada Hospital)	The effect of combination of acupressure and peppermint aromatherapy on nausea in post SC patients	Quasi-experiment	Purposive sampling 32 respondents were divided into a control group and an intervention group of 16 respondents each, with ages ranging from 20-45 years.	Numeric Rating Scale (NRS)	Wilcoxon and Mann-Whitney test	The intervention in this study was a combination of P6 point acupressure and peppermint aromatherapy, applied for 10 minutes. The duration of the intervention was 40 minutes, consisting of a 10-minute treatment period followed by a 30-minute observation period.	The combination of P6 point acupressure and peppermint aromatherapy has a significant effect on reducing nausea in post-CS patients with a p-value of 0.000 (<0.05). This combination is a safe and effective non-pharmacological intervention to reduce nausea in post-CS patients.
4	S. Sarif, S. Supriyadi, D. Widigdoe t al.	2024	Indonesia (KH Hayyung Regional Hospital, Selayar Islands Regency, South	The Effect of Acupressure on Nausea and Vomiting in Post-Caesarean Section Patients with Spinal Anesthesia	True experiment, pretest and posttest control group design.	Probability Sampling: simple random sampling. Sample 62 (31 respondents each in the	Rhodex Index Nausea Vomiting and Reclining (RINVR)	Friedman Test, Post Hoc Wilcoxon, Sign Rank Test, Multiple Linear Regression Model	The intervention group and control group were measured for the level of nausea and vomiting of patients, then given manual acupressure at 0 and 6 hours at	Acupressure points P6, ST36, LI4 have an effect to reduce postoperative nausea and vomiting in patients with caesarean section

			Sulawesi)			intervention and control groups) Age between 20-45 years			three points, namely P6, ST36, LI4. It was done for 2 minutes at each point and side and therapy according to hospital standards in the intervention group. The control group was only given treatment according to hospital standards. Measurement of nausea and vomiting was performed in each group at 0 hours (pre-test), 6 hours (post-test I) and 12 hours (post-test II) after CS with spinal anesthesia.	with spinal anesthesia, at 6 hours (post test 1), the Wilcoxon test obtained p = 0.003, and in the linear regression model, p = 0.001 was obtained. At 12 hours (post test II) the p-value = 0.005 and in the multiple linear regression model the p-value <0.05 was obtained (p-value 0.001 and 0.027).
5	B. Setiawan	2024	Indonesia (Aceh Tamiang District Hospital)	The Effect of Acupressure Therapy on Nausea and Vomiting After Caesarean Section with Spinal Anesthesia at Aceh Tamiang District Hospital	Quasi-Experimental: prepost test with control group design.	Consecutive sampling, total 96 respondents (48 respondents in the control group and 48 respondents in the intervention group) The age of	Gordon Measurement Scale (GMS)	Wilcoxon Test and the Mann Whitney Test	Acupressure was given at point P6 (3 fingers above the crease of the hand or 2 inches above the inner wrist) with a total of 30 massages for 2-5 minutes, performed immediately after surgery once in the intervention group.	There is an effect of giving acupressure to the P6 point by pressing and massaging the fingers on the incidence of nausea and vomiting in post-cesarean section patients with spinal anesthesia

						most respondents is 26-35 years			Nausea and vomiting were measured immediately after surgery and 6 hours after surgery.	in the recovery room. The results of the Wilcoxon test obtained a p-value of 0.000. (p-value<0.005), meaning there is an effect before and after therapy is given acupressure for nausea and vomiting after cesarean section with spinal anesthesia

DISCUSSION

The majority of women who give birth by caesarean section prefer to be given regional anesthesia rather than general anesthesia for caesarean section. Nausea and vomiting, side effects that occur during and after caesarean section with spinal anesthesia, which can negatively impact patient comfort and reduce satisfaction with perioperative analgesia (Thay, 2018). Many factors influence the prevalence of intraoperative and post-caesarean nausea and vomiting. These variables need to be carefully adjusted when investigating PONV in this context, because the causes of emetic symptoms tend to differ based on the length of surgery (Qian et al., 2022).

After conducting a data extraction search, there were 5 articles related to the Effectiveness of P6 acupressure in preventing nausea and vomiting after cesarean section surgery with spinal anesthesia. The research methods used in these articles were quasi-experiment, true experiment and randomized controlled trial. Research on the benefits of P6 acupressure in preventing nausea and vomiting after cesarean section surgery with spinal anesthesia has been conducted in several countries, including Indonesia and Egypt. The respondents who were the research samples on this matter were women who underwent cesarean section surgery with spinal anesthesia.

Ahmed, Mohamed and A. Ghaly (2020) conducted a study with a quasi-experimental design: prospective study. The study was conducted by applying an acupressure bracelet to the P6 acupressure point on the respondents' wrists. The bracelet was applied for 20 minutes, 4 times a day, with a total duration of 7 hours. The pressure was adjusted based on the size of each respondent's wrist. The research instrument used the Visual Analog Scale (VAS), and the Rhodes Index for Nausea and Vomiting (RINV). The results of this study indicate that acupressure of the P6 point using an acupressure bracelet has a very significant effect in reducing the severity, frequency, and duration of nausea and vomiting after cesarean section compared to the control group. The p-values are all below 0.001, indicating very strong statistical significance. There was a significant difference between the control group and the study group according to the RINV score after the first hour of intervention ($P = 0.001$), and very significant after the 3rd and 5th hours ($P = 0.000$) and the 7th hour of intervention ($P = <0.0001$).

AbdElhak et al (2022) conducted a Randomized Controlled Trial (RCT) study with a pre-test and post-test design, Purposive sampling with 48 respondents, aged between 25-35 years, the instruments used were the Verbal Descriptive Scale (VDS) with 4-point and Simplified Postoperative Nausea and Vomiting (SPONV) intensity scale. This study was conducted by giving all respondents the antiemetic Dexamethasone 4mg/kg, then in the intervention group acupressure was performed on the Pericardium 6 (P6) point on the wrist using a wristband and, on the K, -k9 point of the Korean hand (anatomical location is on the intermediate phalanx of the 4th finger) using a small acupressure ball with a diameter of 2 mm which was placed securely on the K-k9 acupuncture point using adhesive tape. This procedure was started 1 hour postoperatively after recovery from anesthesia. The tape was left in place for 6 hours but periodically the points were checked for radial pulse, color and hand temperature. Every hour the tape was loosened for 10 minutes and then tightened again. The control group only received antiemetic Dexamethasone 4mg/kgBW. After the intervention, the acupressure group (Group A) showed a greater decrease in VDS and SPONV intensity scale compared to the control group (Group B) ($p<0.001$). The results of this study indicate that acupressure of

P6 and K-k9 points together with antiemetic drugs is more effective than antiemetic drugs alone in reducing nausea and vomiting after cesarean section.

Research conducted by L. Restu Yuniarti, F. Kurniasari, Sulastyawati et al. (2024) to determine the effect of a combination of acupressure and peppermint aromatherapy on nausea in post-CS patients. This research method uses a quasi-experimental design with a purpose sampling technique of 32 respondents divided into a control group and an intervention group of 16 respondents each, with ages ranging from 20-45 years. The instrument used was the Numeric Rating Scale (NRS). In the treatment group after being given an intervention for 10 minutes, the results showed that there was a significant change with a p-value of 0.000 (<0.05). Based on the results of the Man-Whitney test regarding the difference in the post-test results of the control group, the p-value was 0.595 and the treatment group obtained a p-value of 0.000. So, the conclusion of this study is that the combination of acupressure and peppermint aromatherapy has a significant effect on reducing nausea in post-CS patients.

S.Sarif, S.Supriyadi, D.Widigdo et al conducted a study on a similar matter in 2024 with a True experiment with pre-test and post-test control group design, Probability Sampling: simple random sampling, 31 respondents each in the intervention and control groups, with respondents aged between 20-45 years. The intervention group and the control group were measured for the level of nausea and vomiting after cesarean section surgery using the Rhodex Index Nausea Vomiting and Rectifying (RINVR), then given manual acupressure at 0 and 6 hours at three points, namely P6, ST36, LI4. Manual acupressure was performed for 2 minutes at each point and side and therapy according to hospital standards in the intervention group. The control group was only given treatment according to hospital standards. Measurement of nausea and vomiting was carried out in each group at 0 hours (pre-test), 6 hours (post-test I) and 12 hours (post-test II) after CS with spinal anesthesia. Based on the statistical analysis conducted, the Wilcoxon test at hour 6 (post-test 1) obtained p = 0.003, and the linear regression model obtained p = 0.001. At hour 12 (post-test II) the p value = 0.005 and the multiple linear regression model obtained p-value <0.05 (p-value 0.001 and 0.027). The results of the study showed that acupressure of the P6, ST36, LI4 points had an effect on reducing postoperative nausea and vomiting in patients with caesarean section with spinal anesthesia.

Setiawan (2023) also studied this with a quasi-experimental design with a pre-post-test design with consecutive sampling, 48 respondents each in the intervention and control groups, the age of most respondents was 26-35 years. This research uses the Gordon Measurement Scale (GMS) as a questionnaire. The study was conducted by providing acupressure at point P6 (3 fingers above the crease of the hand or 2 inches above the inner wrist) with a total of 30 massages for 2-5 minutes, performed 1 time in the intervention group. The intervention was carried out by applying pressure and massage using fingers at point P6. While the control group received pharmacological therapy to overcome nausea and vomiting according to hospital procedures. Nausea and vomiting were measured immediately after surgery and 6 hours after surgery. The results of this study prove that there is an effect of acupressure at the P6 point using finger pressure and massage on the incidence of nausea and vomiting in post-cesarean section patients with spinal anesthesia in the recovery room. However, the effectiveness of pharmacological agents seems to be better than single acupressure at the P6 point alone, as evidenced by a decrease in the mean value of nausea and vomiting before and after in the intervention group given acupressure therapy at the P6

point, a mean value of 0.68 was obtained, while in the control group that received pharmacological therapy the mean value was 0.75. Based on the results of the Mann Whitney test p-value 0.000 (p-value <0.005), meaning that there is a significant difference in nausea and vomiting in patients in the intervention group who were given acupressure therapy and the control group who were given pharmacological therapy.

Acupressure is often called acupuncture massage because the massage method is based on the science of acupuncture. Acupressure is a complementary action that can help overcome the side effects of the disease. The pressure area in acupressure is the same as acupuncture, but what distinguishes it is that acupressure does not use needles.(Ismuhu et al., 2020)

In traditional Chinese medicine, acupressure of the P6 or Nei-Guan point brings balance to the life force energy or Chi to the median pericardium. The median pericardium controls the function of the heart and breathing. The Nei-Guan point located on the right wrist is where negative energy from the heart exits the body, and the Nei-Guan point on the left wrist is where positive energy enters the body from the outside. When there is a balance between Yin and Yang, nausea is controlled through increased blood flow to the internal organs connected to each nerve point, and stomach and intestinal function can be improved. In addition, vomiting due to pregnancy can be stopped through improved stomach function. By doing this, P6 acupressure relieves chest discomfort, stabilizes the fetus, and stops vomiting (Kusumaningsih, 2022).

The length of time required to apply pressure may also be an important factor. Wearing an acupressure band for only eight hours per day did not show significant improvements in antiemetic intravenous fluid use or length of hospital stay. Wristbands are less invasive, the need to wear them for longer periods may reduce compliance, and the accuracy of pressure application is also questionable, especially at night. Therefore, wearing an acupressure band for only 12 hours each day may achieve the desired results, ensure correct application, reduce noncompliance, and provide better satisfaction scores (Kusumaningsih, 2022).

The location of the pressure on the P6 point is 3 fingers above the patient's wrist, between the two muscle protrusions that are visible when gripping the hand tightly. The pressure applied to the P6 and ST36 points is believed to be able to reduce nausea and vomiting in patients undergoing chemotherapy because it can improve the flow of energy originating in the spleen and stomach. Thus, it will strengthen the cells of the digestive tract against the effects of surgery and spinal anesthesia so that the stimulation of nausea and vomiting that goes to the vomiting center will be reduced (Setiawan, 2023). The location of acupressure pressure can be done at point P6 and at the combination point between P6 and ST36 (Ismuhu et al., 2020).

Not only that, pressing the P6 and ST36 points can stimulate the release of beta endorphins in the pituitary. Endorphin beta cells are a natural antiemetic which functions to reduce nausea and vomiting impulses in the Chemoreceptor Trigger Zone (CTZ) and the vomiting center. Pressure on points P6 and ST36 can reduce nausea and vomiting because it can help improve the flow of "Qi" energy in the stomach, thereby reducing the nausea and vomiting response (Setiawan, 2023). If the pressure on these points is done correctly, the patient will feel a light charge like static electricity. Furthermore, after applying pressure for a few minutes, the patient will feel mild discomfort. This occurs because of the process of rebalancing Chi allergies which results in an improvement in the nausea and vomiting response (Ismuhu et al., 2020). The average duration of pressure given is 3 minutes and the intensity of intervention is carried out twice a day in the

morning and before rest or depending on the intensity of nausea and vomiting experienced by the patient (Ismuhu et al., 2020).

Acupressure intervention is easy to perform, self-controlled, non-invasive and cost-effective, making it suitable for family-centered care. Other studies have shown the potential usefulness of Neiguan acupressure, not only for improving NVP in HG, but also for nausea and vomiting in postoperative patients and those undergoing chemotherapy (Kusumaningsih, 2022).

Literature search on the Effectiveness of P6 acupressure in preventing nausea and vomiting after cesarean section with spinal anesthesia found some agreement with Setiawan's research (2023). The following is an analysis of the advantages, disadvantages and recommendations of the study.

Strengths: 1) large sample size (48 respondents per group), increasing the statistical power of the study, 2) Use of a standardized instrument (Gordon Measurement Scale) to measure nausea and vomiting, 3) Clear and measurable acupressure intervention protocol (30 massages for 2-5 minutes), 4) The presence of a control group that received standard pharmacological therapy, allowing comparison with the intervention group, 5) Measurement of outcomes at two time points (immediately after surgery and 6 hours after surgery), providing a picture of short-term effects, 6) Statistically significant results, indicating the effectiveness of the intervention.

Disadvantages: 1) Quasi-experimental design, which has lower internal validity than true experimental design, 2) Use of consecutive sampling, which can reduce the generalizability of the results, 3) Acupressure intervention was only carried out once, which may limit long-term effects, 4) The time of implementation of the intervention was not detailed at what minute after surgery, 5) It was not stated how much pressure/massage strength was applied to the P6 acupressure point, 6) The inclusion criteria for respondents were not determined, whether the type of surgery was cite or elective, and the duration of the surgery, 7) Ethical considerations for research in the intervention group that only received P6 acupressure point, while the control group received antiemetic therapy according to hospital procedures, 8) Outcome measurements were only up to 6 hours after surgery, not providing information on long-term effects up to 12 hours and 24 hours according to the definition of PONV, 9) The intervention only focused on one acupressure point (P6), not exploring the potential for a combination of acupressure points

Recommendations: 1) Conduct further research with a randomized controlled trial or quasi-experimental design with better inclusion criteria to improve internal validity, 2) Use probability sampling to improve the generalizability of the results, or non-probability sampling: consecutive sampling with more detailed inclusion criteria, 3) Add inclusion criteria regarding the type of cito or elective surgery and determine the duration of surgery, 4) Ethical considerations for research: the intervention and control groups both receive antiemetic drugs according to hospital procedures, then acupressure at point P6 is only performed on the intervention group, 5) Determine the time of intervention implementation at what minute after surgery, 6) Determine how much pressure/massage strength is applied to the P6 acupressure point, 7) Use RINVR as a research instrument so that the research results are more accurate, 8) Extend the follow-up period to assess the long-term effects of acupressure intervention so that post-test I can be carried out at 6 hours post-surgery, post-test II at 12 hours post-surgery and post-test III at 24 hours post-surgery, 9) Explore the effectiveness combination of several acupressure points, 10) Adding measurements of other variables such as quality of life or patient comfort level,

11) Conducting subgroup analyses based on factors such as age, parity, or type of anesthesia to identify populations that may benefit most from the intervention, 12) Comparing the effectiveness of acupressure with other non-pharmacological methods for treating postoperative nausea and vomiting.

Although acupressure at P6 for nausea and vomiting is not a new concept, this study provides an important contribution in the specific context of post-cesarean section with spinal anesthesia in Indonesia. The novelty of further research lies in the application and evaluation of this method in a specific clinical setting, which may assist in the development of more effective and evidence-based treatment protocols for this population.

CONCLUSION

Several studies on the application of acupressure show that acupressure massage at the P6 point using either finger pressure or wristband can significantly reduce nausea and vomiting that occurs in post-operative caesarean section patients with spinal anesthesia. Manual acupressure with finger pressure at the P6 point is done by applying pressure and massaging 30 times for 2-5 minutes, done once immediately after surgery.

P6 point acupressure is an alternative independent nursing intervention to overcome nausea and vomiting in post-operative caesarean section patients with spinal anesthesia. This intervention is easy to do, self-controlled, non-invasive and cost-effective. Thus, it is expected that nurses have special skills related to the provision of this action, so that it can be applied when providing nursing care to patients.

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