

## The effect of auricular acupressure on nausea and vomiting caused by chemotherapy among breast cancer patients



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### ABSTRACT

**Objective:** The aim of this study was to determine the effect of auricular acupressure in relieving nausea and vomiting among the women who received chemotherapy.

**Methods:** 48 women suffering from Breast Cancer and receiving chemotherapy were recruited for the study. The patients were randomly assigned into two groups of experiment and control. In the initial phase of chemotherapy, the experimental group received standard medications to control nausea and vomiting and auricular acupressure for five days. Meanwhile, the control group received only the standard medications.

**Results:** The use of auricular acupressure led to the decrease in the number and intensity of nausea and vomiting in both the acute and delayed phases in experimental group which were significantly lower than the control group ( $P = 0/001$ ).

**Conclusions:** It is suggested that nurses use this pressure technique as a complementary treatment, non – pharmacological, inexpensive, non-invasive approach for the relief of chemotherapy-induced nausea and vomiting.

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### 1. Introduction

Breast cancer (BC) is one of the most common malignancies in women [1]. Despite the considerable progress in medicine, BC is still one of the deadliest malignancies worldwide [2]. This disease is the most prevalent types of cancer among women in Iran [3]. And proportion rate has been reported to be 10% [4].

Treating BC is complicated and consists of surgery, chemotherapy, biotherapy, radiotherapy, and plastic surgery [5]. One of the main alternatives for treating BC is chemotherapy which is still most utilized cancer treatment [6]. Currently, most patients who use a chemotherapy regimen receive anthracycline with

cyclophosphamide and taxane which cause more than 90% nausea [1].

Nausea and vomiting are the most common side effects caused by these medications experienced by almost 40–80% of patients [7] and these side effects are categorized into three types: acute, delayed and predictable [8–10].

The nausea and vomiting that starts between 1 and 2 h after prescribing chemotherapy medicines and that can last for 24 h afterwards is known as acute and the delayed type refers to a state in which nausea and vomiting that commonly experienced at home from the second to the fifth day following chemotherapy [9]. This condition is experienced in varying degrees by patients who receive chemotherapy and can have a terribly negative impact on their quality of life. In addition, serious metabolic side effects (hypothermia, hypokalemia, etc), defect in immune system, disturbance in physical activities, socio-cognitive functioning, and depression are among the side effects. Therefore, it is important to prevent and even control the nausea caused by chemotherapy

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among patients suffering from cancer [9]; otherwise, about 20% of patients may refuse to undergo therapeutic treatments in case of being improperly controlled [11].

The effective medicines used to control nausea and vomiting as the standard treatment for preventing nausea are the serotonin receptors antagonists of corticosteroids and metoclopramide. Research has shown that even after prophylaxis, with these medications, the incidence rate of acute and delayed nausea and vomiting can be prevented are up to 50% [12]. Nevertheless, the high cost of anti-nausea and vomiting agents and their side effects including extra pyramidal disorders, hypotension, headache, constipation, fatigue, mouth dryness, vertigo, diarrhea and irritability have all imposed limits on the coverage of these drugs [8,9,13].

Although pharmacological prescription could be attributed to a decrease in the incidence rate of nausea and vomiting, but studies have shown that they do not help completely, so using non-pharmacological methods are preferable [14]. Thus, listening to music, relaxation techniques, hypnotism, yoga, acupressure and acupuncture which have recently been extensively used for relieving nausea are recommended [9].

One of the non-pharmacological methods for controlling nausea and vomiting is the use of acupressure. This method had numerous advantages which are being non-invasiveness, lack of need to any special tool or instrument, availability and the ease of use and learning by nurses and patients which can finally lead to its application by patients themselves and the elimination of need to being visited at doctor's office [15]. According to the evidence provided by the National Institute of Health and also the relevant studies done in this regard, administering acupressure in preventing and treating the nausea and vomiting induced by chemotherapy could be useful as the same methods that were used in some countries like the USA and Germany [16]. Acupressure is a non-invasive method for treating nausea and vomiting which has the same effect as acupuncture and can be administered in different parts of body [14,17]. Besides, auriculotherapy or auricular acupressure (AA) is one of the more widely used microsystem within eastern medicine. It is a therapeutic method in Chinese traditional medicine which is performed by stimulating special points of the ear that are connected to certain parts of the body [16]. Also, this method is one the most favorite therapeutic methods in different countries and is extensively applied by both doctors and nurses as a preventive-therapeutic measure [18]. With regard to ethical-legal issues, using acupressure has been recognized by the Federal Nursing Council in its 197/97 resolution as being within the professional prowess of nurses [19]. Hence, by stimulating different points on the ear by needles, granules, electric stimulation or a combination of them, a host of disorders can be treated by this method, such as rapid relief of pain, or any chronic or acute pains, psychological disturbances (anxiety and depression, attention deficit), dizziness, facilitating cigar withdrawal, reducing inflammation, disorders in endocrine glands and urinary system, infectious diseases, obesity, nausea, and so on [19]. Using tiny seed in AA is inexpensive, non-invasive, painless, safe, quick and also adaptable to environmental conditions which does not have any side effects, so AA could be a good choice for managing the nausea and vomiting caused by chemotherapy [18,20]. Evidence shows that numerous studies have been done on using acupressure and the effect of AA for treating some diseases, but few studies have been done on investigating the effect of AA on the amount of the nausea and vomiting caused by chemotherapy. Nurses as major members of therapeutic team, can use AA to treat the patients. By doing so, they would be able to increase the quality of care for their patients, relieve their pains, and increase treatment satisfaction. Hence, the present research was carried out with the aim of identifying the effect of AA on chemotherapy-induced nausea and vomiting.

## 2. Method

### 2.1. Study design

This study is a crossover clinical trial design (diagram 1).

### 2.2. Sampling

This study was conducted on 48 women who were undergoing chemotherapy (Sample size based on Parent and Fortin's (2000) study required to achieve 80% power at a significance level of 5% was calculated). The patients were selected from two hospitals located in an urban area of Iran. The study units were chosen based on the randomly assigned two groups, the control (group A) and experiment (group B).

Both groups received information on how to fill in the questionnaires prior to chemotherapy and the researcher taught AA to patients, so that they would be informed about the type of intervention that they were going to receive in this study. Afterwards, they underwent with chemotherapy treatment and their acute and delayed chemotherapy-induced nausea and vomiting were investigated daily for 5 days through using Moro questionnaire. In other word, the experiment group received AA besides anti-nausea and vomiting medications. Meanwhile, the researcher contacted the patients or the caregiver every day by phone and reminded them of administering acupressure and filling in the questionnaires. Throughout this period, the control group received only the standard anti-nausea and vomiting medications to control their discomfort.

The method of AA was done through this procedure: before chemotherapy, both auricular of pinna were initially cleansed by 75% alcohol and then point zero, stomach, brainstem, and cardia that are effective for controlling nausea and vomiting were identified (Fig. 1); then, the researcher placed an ear seed on each point and pasted it with a special non-latex adhesive. Afterwards, the researcher trained the patients to press each point at least 3 times every day (morning, noon and night) for 3 min. The pressure techniques included a mild stimulation through a stable and

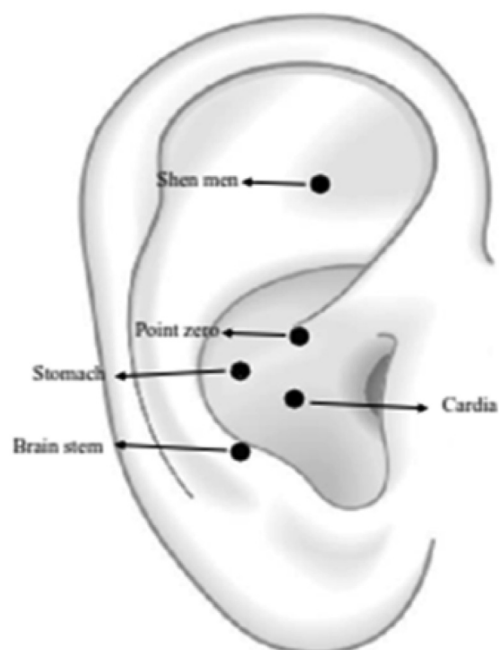


Fig. 1. Auricular appoint for chemotherapy induced nausea and vomiting.

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