

FFECT OF ACUPRESSURE ON CHEMOTHERAPY INDUCED  
NAUSEA AND VOMITING AMONG CANCER PATIENTS

Thesis

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# Effect of Acupressure on Chemotherapy Induced Nausea and Vomiting among Cancer Patients

## Abstract

By

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Patients who receive chemotherapy perceive nausea and vomiting to be one of the most problematic outcomes of chemotherapy, even with the administration of a prophylactic anti-emetic protocol. Therefore, the purpose of the current study was to evaluate the effect of acupressure on chemotherapy induced nausea and vomiting among cancer patients. A convenient sample of 93 adult male and female patients who had either one day dose of chemotherapy or more than one day was recruited. The study setting was the public-free of charge chemotherapeutic outpatient of the National Cancer Institute, Cairo University. six tools were used for data collection: 1) Socio-demographic and medical data sheet, 2) Visual Analogue scale, 3) Patient assessment sheet, 4) Nutritional assessment sheet, 5) Knowledge assessment sheet, and 6) Observational checklist. Pressure on the neiguan, pericardium 6 (P6) was performed. The study results showed that there were statistically significant differences between the anti-emetic session, whereas patients received the anti-emetic only and the acupressure sessions, whereas patients received routine anti-emetic plus acupressure; in relation to incidence of nausea and vomiting, frequency and amount of vomiting, and severity of nausea and vomiting in both groups those who received one day dose and those who had more than one day dose during the chemotherapeutic cycle. There were no statistically significant differences between 1<sup>st</sup> and 2<sup>nd</sup> acupressure sessions in both groups, in relation to incidence of nausea, frequency and amount of vomiting and perceived severity scores of nausea and vomiting during chemotherapy administration. Patients were followed up for 5 days after 1<sup>st</sup> and 2<sup>nd</sup> acupressure sessions through phone calls. Results revealed that about two thirds of the studied sample performed acupressure at home. There were statistically significant differences between patients who performed acupressure and those who did not perform it in relation to incidence of nausea, frequency of vomiting, and severity of nausea and vomiting. In addition, daily activities of patients who performed acupressure improved, and they started eating earlier with significant increased amount than those who didn't perform acupressure at home. It is recommended to design a prospective study to determine the stability of the effect of acupressure as an adjuvant therapy to control chemotherapy induced nausea and vomiting among the Egyptian patients.

(key words: Acupressure, Chemotherapy induced nausea and vomiting, neiguan, pericardium 6 (P6)).

Chairperson

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## List of Abbreviations

|                     |                                               |
|---------------------|-----------------------------------------------|
| ACTH:               | Adrenocorticotrophic Hormone                  |
| ASHP:               | American Society of Health System Pharmacists |
| BMI:                | Body Mass Index                               |
| CBC:                | complete Blood Count                          |
| CINV:               | Chemotherapy Induced Nausea and Vomiting      |
| CTZ:                | Chemoreceptor Trigger Zone                    |
| NCI:                | National Cancer Institute                     |
| NK <sub>1</sub> :   | Neurokinins                                   |
| N&V:                | Nausea and Vomiting                           |
| P6:                 | Pericardium 6                                 |
| TCM:                | Traditional Chinese Medicine                  |
| VC:                 | Vomiting Center                               |
| 5-HT <sub>3</sub> : | 5-Hydroxytryptamine 3                         |

## Glossary

Acupoint: is derived from Latin language which means a very minute point.

Acupressure: the practice of applying finger pressure to specific acupoints throughout the body.

Meridians: are like rivers which distribute Qi throughout the body. Meridians are distributed over the whole body, connect the internal organs to the surface of the body and to the extremities.

Qi: is a force arising from the interplay between Yin and Yang, in which Yin Yang is seated and functions.

Yin and Yang: it is two complementary and yet opposing forces, Yin and Yang, rather like the mathematical symbols plus and minus.

## **CHAPTER I**

### **Introduction**

Cancer is a major worldwide medical problem. There are more than seven million new cases of cancer diagnosed annually throughout the world, and about half of these are in developing countries. It is estimated that less than 10 % of the resources committed to cancer control are available to developing countries (Abd - El – Moneem, 2004).

Chemotherapy – the use of medications for the purpose of killing cancer cells – has played a major role in cancer treatment for more than half a century. It may be used in combination with other treatments, such as surgery and radiation therapy or it may be the only choice for treatment (Mayo Foundation for Medical Education, 2007). Chemotherapy, that is successful in treating malignant cancer cells, often produces intense side effects in the body (Phegley, 2008).

One of the most intense side effects from patients' point of view is nausea and vomiting. Many patients identify nausea and vomiting as a main reason for being reluctant to begin chemotherapy and for discontinuing treatment and therefore, minimize chances for an optimal outcome (Dibble, Chapman, Mack & Shih, 2000). Many studies reported that chemotherapy induced nausea and vomiting lead to 4% of patients being bedridden, 31% of patients experiencing difficulty in eating and 28% of patients suffering tremendous impact on daily activities. In

conclusion, patients rank poorly controlled acute or delayed nausea and vomiting as a health state close to where they rank death (Mallick, 2007a).

Recent advances in understanding the mechanisms of chemotherapy induced nausea and vomiting have led to the development of effective anti-emetics, as 5-Hydroxytryptamine 3 (5-HT<sub>3</sub>) & NK<sub>1</sub> receptor antagonists (Lee, Dodd, Dibble & Abrams, 2008). Despite significant progress over the past decade in controlling chemotherapy induced nausea and vomiting, more than half of all patients receiving chemotherapy still suffer from these side effects; furthermore, nausea may persist when vomiting is controlled. Chemotherapy induced nausea and vomiting can either be acute (occurring within the first 24 hours of chemotherapy initiation), delayed (starts 24 hours after chemotherapy), or both. Delayed nausea and vomiting is more common than acute nausea and vomiting. (Ezzo, Vickers & Richardson 2005).

In conclusion, despite the use of a strong, potent and expensive anti-emetic drugs, nausea and vomiting are frequent side effects of chemotherapy and the literature has demonstrated that they compromise patients, and produce increased psychological distress together with physiological problems. Nurses often feel frustrated and helpless with their inability to help patients when they experience these distressing symptoms. Complementary therapies in general and traditional Chinese medicine in particular have, in many cases, assisted patients to

manage these symptoms better. (Dibble et al., 2000 ; Roscoe, Morrow, Bushunow, Tian & Matteson, 2002).

In traditional Chinese medicine, health is described as a state of balance or harmony within an individual and between the individual and nature (Kaptchuk, 2002). According to the traditional Chinese medicine, the body is networked by a system of pathways which function to transport "Qi" (also spelled chi, pronounced "chee"), which is the basal energy of the body that flows through the entire body and is the basis for all movement and action. The channels (meridians) are pathways through which the Qi flows throughout the body. The traditional channel theory (meridian system) subscribes to the theoretical belief that energy channels (meridians) link internal organs with the externally located acupoints. Acupoint stimulation regulates Qi (Shen & Glaspy, 2001).

According to the traditional Chinese medicine theory, illness may occur when the energy flow along one or more meridians is blocked or out of balance. Acupressure and other elements of Asian bodywork have goal of restoring health and balance to the energy flow. There are claims that acupressure can be used to treat the body, mind, emotions, energy field, and spirit (American Cancer Society, 2007).

Acupressure, the practice of applying finger pressure to specific acupoints throughout the body, was used in China as early as 2000 B.C. Acupressure helps restore balance and a health energy flow within the body. Although scientists don't fully