

# CHAPTER I

## INTRODUCTION

### 1.1. Background of The Study

Cancer or carcinoma is a disease that causes the body's cells to change and divide unstable and uncontrolled. A type of cell cancer which eventually forms a lump and mass is called a tumor which is then named according to where the tumor originated. Most breast cancer starts in the part of breast tissue consisting of the mammary glands (lobulus) which connect channels into the nipple and the rest is made up of fat, connective tissue and lymph tissue which can then be metastasize to other organs and tissues (Alteri, 2015).

Based on Globocan's estimation, an International Agency Research on Cancer (IARC) in 2012, breast cancer is a cancer which has the highest new cases percentage (43.3%) and the highest percentage of deaths (12.9%) in women in the world. Basic Health Research data in 2013 revealed that, the prevalence of breast cancer in Indonesia reached 0.5 per 1000 women while in the province of Central Java had reached 0.7 per 1000 women (Indonesian Ministry of Health, 2015).

Cancer that affects cancer patients can cause complications which then require special treatment. The types of therapy used to treat cancer are surgery, radiation, and chemotherapy. Cancer conditions that indicate the occurrence of metastases and included in advanced stage, were given chemotherapy. This chemotherapy is palliative chemotherapy in order to improve the patient's quality of life and relieve the symptoms after chemotherapy not included the main treatment (Rasjidi, 2010).

Chemotherapy is carried out using cytotoxic drugs that will damage DNA (Deoxyribo Nucleic Acid) acting as a general inhibitor of cell division. Chemotherapy can cause side effects such as nausea and vomiting. Side effects of nausea and vomiting in chemotherapy treatment are the most

common and most difficult to overcome. Women with breast cancer often suffer nausea and vomiting after experiencing post chemotherapy and lead to fatigue due to chemotherapy agents for breast cancer combining emetogenic agencies, such as cyclophosphamide, doxorubicin, epirubicin, paclitaxel, docetaxel, fluorouracil, and methotrexate (Peoples et al, 2016).

As the word of Allah *Subhanahu Wa Ta'ala* in QS. Ash-syu'ara / 26:80.

وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ

“And when I am ill, it is He who cures me”

This verse explains that Allah *Subhanahu Wa Ta'ala* healed human's illness. Allah *Subhanahu Wa Ta'ala* has the power to heal any illness that is suffered by His servants. Even so, humans also have to find out ways to get that cure. Imam Houraluddin al-Qasimi in his commentary explained that this verse describes the moral order of servants of Allah to the Khalik (Indonesian Ministry of Religion, 2011).

The disease is sometimes the result of human action, for example, the violation of the norms of health, and life pattern, which result the attacks of disease to the body is inevitable. Conversely, the one who can heal the disease is God. If a sick person thought that Allah is the only curer, then he will live up to God's blessings after he has recovered from the disease. The reality indeed proves that most people are stricken with disease due to lack of attention to the prevailing health norms (Indonesian Ministry of Religion, 2011).

Dr. Hospital Soeradji Tirtonegoro is one of the hospitals in Central Java which serves cancer patients included breast cancer patient. One of the treatments for breast cancer is chemotherapy. The visit of breast cancer patients who got chemotherapy in 2017 was 76 visits while there were 72 visits in 2018. Therefore, this study was intended to evaluate the chemotherapy given to breast cancer patients based on dosage, type of drug given, stage, combination of drugs, and side effects suffered by the patient.

The therapy given to patients considered the patient's condition in order to improve the recovery of patients with breast cancer.

## **1.2. Formulation of the Problems**

The formulation of the problems from this study are as follow:

1. What is the pattern of chemotherapy drugs usage in breast cancer patients?
2. What are the side effects of chemotherapy drugs and therapies are given post chemotherapy?

## **1.3. Research purposes**

The research objectives of this study are as follow:

1. Invastigating the pattern of chemotherapy drugs usage in breast cancer patients.
2. Invastigating the side effects of chemotherapy drugs and therapy given post chemotherapy.

## **1.4. Benefits of research**

### **1.4.1. Theoretical benefits**

The theoretical benefits of this research are:

1. To broader knowledge and insight into breast cancer and its chemotherapy.
2. To add data and information for further research on chemotherapy drugs.

### **1.4.2. Practical benefits**

The practical benefits of this research are:

1. For pharmacists, it is useful to improve pharmacy services and provide information and knowledge about chemotherapy drugs, drug side effects, and therapies given to patients with breast cancer post chemotherapy.
2. For clinicians, it can be used for additional information for improving health services and the quality of life of breast cancer patients dealig with treatment patterns that match the management pharmacological therapy of breast cancer.