

CHAPTER 1

INTRODUCTION

1.1. Background of Study

Diabetes mellitus (DM) is a group of metabolic diseases characterised by hyperglycemia. It is caused by a defect in insulin secretion, insulin action, or both. If the patient experiences chronic hyperglycemia, long-term damage and failure can occur in various organs such as the eyes, kidneys, heart and blood vessels (American Diabetes Association, 2018).

Type 2 DM is diabetes that may not depend on insulin (Non-Insulin-Dependent Diabetes Mellitus / NIDDM). Type 2 DM is going to depend on insulin when the disease is getting worse so that the body is unable to produce insulin. Insulin is a crucial determinant of the blood glucose levels and instruct to take up glucose to draw up a new body tissue (anabolic function). The signs of someone having DM are glucose levels equal or above to 200 mg/dL and fasting glucose levels above or equal to 126 mg/dL (Misnadiarly, 2006).

Global Report 2017 has released the global prevalence of DM in 2014. Globally, 422 million (8.5%) adults were diagnosed with DM, this prevalence had nearly doubled since 1980, which the prevalence was 108 million (4,7%) adults diagnosed with DM. DM prevalence of Indonesia population in 2013 is 12 million people exposed to DM (6,9% of the Indonesia population) including 3,7 million people (30,4% of the DM population) who were diagnosed to having DM and 8,3 million people (69,6% of the DM population) did not report having DM (Ministry of Health of the Republic of Indonesia, 2014). While according to data from the Health Profile of Central Java Province (2016), DM in the area was ranked the second highest after hypertension from non-communicable disease data which was 16,42 percent. According to this data, the city of Magelang ranked the second highest in the case of DM, which was amounted to 13.555 people suffered from the disease.

The adherence to taking oral anti-diabetic drugs in patients with type 2 DM is one of the factors that significantly affect the control of glycemic levels to prevent complications in DM, so it is essential to evaluate the level of adherence to taking oral anti-diabetic drugs in DM patients (Lee *et al.*, 2013). Non-adherence is a pervasive problem in geriatric patients, due to the tendency to experience difficulties in adhering to their medication, such as stopping treatment suddenly or taking drugs with improper doses (Indonesian Republic Ministry of Health, 2014). As explained in the hadith of prophet Muhammad SAW:

عَنْ جَابِرِ رَضِيَ اللَّهُ عَنْهُ قَالَ رَسُوْلُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ: لِكُلِّ دَاءٍ دَوَاءٌ، فَإِذَا أُصِيبَ دَوَاءُ الدَّاءِ بَرَأَ بِإِذْنِ اللَّهِ عَزَّ وَجَلَّ

Which means: “Every disease has a cure. If the drug is right for an illness, the disease will recover with the permission of Allah “*azza wa jalla*”.

From this hadith, we can conclude that every disease has a cure, as well as this DM disease. This hadith also explains that a patient must take medicine given by the medical personnel according to the recommendation of the doctor. If the drug is presented properly and taken with a high level of adherence, the disease will recover by the permission of Allah.

In the previous study, a significant correlation was found between patients who were adherent and non-adherent to take oral anti-diabetic drugs with blood glucose levels of type 2 DM patients, namely patients who adhered to oral anti-diabetic drugs had normal blood glucose levels, while patients who did not adhere to taking anti-diabetic oral medicines had high blood glucose levels (Salistiyaningsih, 2011). Based on this study, a study was conducted on the analysis of oral anti-diabetic drugs adherence in geriatric type 2 DM patients. This study used a type of non-experimental research that explained the relation of adherence in taking oral anti-diabetic drugs with glucose levels in geriatric type 2 DM patients using a cross-sectional approach.

1.2. Problems of Study

Looking at the background, a problem of the study about the geriatric type 2 DM patients at RST dr. Soedjono Magelang is as follows:

1. How was the level of adherence in taking oral anti-diabetic drugs?
2. What are the factors that affect adherence in taking oral anti-diabetic drugs?
3. Is there a relation between the level of adherence in taking oral anti-diabetic drugs and the glucose level of the patients?

1.3. Purposes of Study

The purpose of the study conducts in RST dr. Soedjono Magelang among geriatric type 2 DM, is as follows:

1. To determine the level of adherence in taking oral anti-diabetic drugs.
2. To find out the factors that affect adherence in taking oral anti-diabetic drugs.
3. To find out the relation between the level of adherence in taking oral anti-diabetic drugs and glucose levels of the patients.

1.4. Significances of Study

This study was expected to provide several benefits as follows:

1. Theoretical of Significance

This study was conducted to determine the relation of adherence in taking oral anti-diabetic drugs in geriatric type 2 DM patients at RST dr. Soedjono Magelang and blood glucose levels. Also, it could be the basis of data in identifying problems that affect the adherence at RST dr. Soedjono Magelang.

2. Practical of Significance

Increasing knowledge and insight about the relation of the adherence in taking oral anti-diabetic drugs and the glucose levels of geriatric type 2 DM patients.