

CHAPTER I INTRODUCTION

A. Background

Non-Communicable Diseases (NCDs) are one of the health problems that are of concern at the national and global levels. According to *World Health Organization* (WHO) in 2022 The prevalence of non-communicable diseases is ranked in the top 3, namely stroke, coronary heart disease and diabetes mellitus (DM). The WHO states that DM is among the most common diseases suffered by people worldwide and ranks third in the degenerative disease research priorities across the country.

According to *International Diabetes Federation* (IDF) by 2024, as many as 589 million people aged 20-79 worldwide suffer from DM. DM also causes 6.7 million deaths or one out of every five seconds. DM is also known as *mother of disease* which is the parent of various diseases such as hypertension, heart, stroke, kidney failure and blindness (Rahman et al., 2021). DM is a metabolic disorder characterized by increased blood glucose levels (hyperglycemia) occurring due to abnormal insulin secretion, insulin action, or both (Lafau, 2021). Indonesia is ranked in the top 5 countries with the highest population of DM sufferers in the world.

The prevalence of DM in Indonesia is estimated to increase from 9.19% in 2020 (18.69 million) to 16.09% in 2045 (40.7 million) (Wahidin et al., 2024). According to the 2013 Basic Health Research (RISKESDAS) report, the prevalence of DM was 6.9%, an increase in 2018 of 10.9%. Meanwhile, the results of the 2023 Indonesian Health Survey (SKI) show that the prevalence of DM based on blood sugar checks in the population aged ≥ 15 years is 11.7% or as many as 19,159 people. According to the type of DM, the most is type 2 DM at 50.2% or as many as 14,935 people, this type is more experienced by the elderly, namely the age of 65-74 years at 52.5%, the age of 55-64 years at 51.8% and the age of 75 years and older at 50.8%. The second type, namely

type 1 diabetes at 16.9%, where this type is most experienced by children aged 5-14 years at 55.7 years, 15-24 years old at 29.3% and 35-44 years old at 19.9%. Third, gestational DM is 2.6%, this type is more experienced in the age group of 25-34 years by 3.8% while the age group of 35-44 years and 65-74 years old is 3% each (RISKESDAS, 2023). In 2023, the prevalence of DM in Indonesia will increase to 877,531 people suffering from DM, with data from Bengkulu province of 6,571 people with the disease (Ministry of Health of the Republic of Indonesia, 2023).

The number of DM sufferers in the city of Bengkulu in 2024 will be 2,691 people. Based on data from the Bengkulu City Health Office, the number of DM patients in the Sawah Lebar Health Center area is the highest with the number of patients reaching 273 people. Then followed by the second place is the Sukamerindu Health Center with a total of 257 patients, and the third place is the Anggut Atas Health Center with a total of 201 patients (Bengkulu City Health Office, 2024).

DM can have complex impacts on quality of life, not only on bodily functions (biological aspects), but also on a person's mental (psychological) state, social relationships, and even spiritual beliefs. DM often causes physical complications that can limit daily activities, such as in biological aspects can be in the form of decreased glucose levels in the blood and weight loss. Meanwhile, the impact of psychological aspects that can occur, namely anxiety that affects the health status of DM sufferers, and also such as poor glycemic control will have an impact on the quality of life. Several studies related to quality of life in DM patients have been conducted, such as studies Abedini et al., (2020) which examined the quality of life of DM patients by showing poor quality of life problems were found in patients, namely in the anxiety/depression dimension of 12%, while the rates of pain/discomfort and mobility were slightly higher (13.7 and 13.6%, respectively), according to the results of the study, the quality of life of DM patients was influenced by many factors including gender, occupation, duration of the disease and the presence of complications such as neuropathy and nephropathy. The results of the study

stated that there were 44 patients with poor quality of life or 30.98% (Syamsu, 2024). The quality of life in question includes the ability of individuals to carry out daily activities or *Activity Daily Living* (ADL) in DM patients, where this ability can be affected by various signs and symptoms, such as feeling tired and weak (Setiani et al., 2024).

Quality of life is a good or bad condition for DM patients in looking at their disease. Quality of life is a person's perception of their position in life in the context of the culture and values in which they live and in relation to life goals, expectations, standards, and attention which is a comprehensive concept can affect a person's physical health, mental state, level of dependency, social relationships, personal beliefs, and their relationship to future environmental expectations (Anggraini, 2021). One of the main factors that cause poor quality of life in DM patients is disorders *Self-Care Management*. *Self-care management* Non-optimal practices, such as non-adherence to dietary settings, medication, physical activity, blood sugar level monitoring, and self-care, can lead to poor glycemic control. This condition increases the frequency of physical complaints and the risk of complications, which directly decreases the physical function and comfort of life of the patient. In addition, failure to do *Self-Care Management* It also causes frustration and helplessness, thus negatively impacting the patient's psychological condition (Susilowati, 2024).

Implementation *Self-care* optimal has been shown to play an important role in controlling blood glucose levels, lowering the risk of chronic complications, and improving the quality of life of DM patients. The results of the recent meta-analysis show that DM's self-management education program (*Diabetes Self-Management Education and Support* — DSME/S) significantly increases *self-efficacy*, adherence to treatment, and patient clinical outcomes compared to conventional care (Yimer et al., 2025).

Self-Care (Self-care) according to Orem (1959) which focuses on individual self-service carried out on type 2 DM clients can include monitoring blood sugar levels, dietary arrangements, drug therapy, physical exercise (exercise) and foot care. Research from Sari (2021) *Self-care* In type 2 DM

patients in the Batunadua Health Center work area, 52 people (74.3%) were found *Self Care* Bad from 70 respondents. It can be concluded that doing good self-care can improve the quality of life of a DM patient (Saragih et al., 2022). According to the results of several researchers on *Self-Care Management* with the quality of life of DM patients including Simanullang et al., (2022) at Santa Elisabeth Hospital Medan in 2023 with a total of 53 respondents indicating that there is a relationship *Self-Care Management* on quality of life in type 2 DM patients ($p = 0.001$).

Meanwhile, according to the results of the study Asnaniar (2019) at the Antang Health Center with a sample of 38 people, showing that there is a meaningful relationship between *Self-Care Management* with quality of life in patients with type 2 diabetes ($p = 0.001$). According to the results of the study Siregar et al., (2022) at the Imelda Workers Indonesia Hospital in Medan in 2021 which was carried out with 30 respondents stating *Self Care* related to the quality of life of DM patients, the results were obtained with a value of ($p = 0.001$). Then according to the results of the study Luther et al., (2023) in the working area of the Tamalanrea Jaya Makassar Health Center with 82 respondents showing that the relationship between the *Self Care* with *quality of life* patients with type II diabetes with a score of ($p=0.003$). In addition to *Self-Care Management*, *sleep quality* is also an important cause of a decrease in quality of life in DM patients. DM patients often experience disorders *sleep quality* in the form of difficulty sleeping, waking up often at night, not sleeping well, and insufficient sleep duration. *Sleep quality* It can be caused by neuropathic pain, fluctuations in blood sugar levels, frequent urination at night, as well as chronic disease-related stress. *Sleep quality* which is bad leads to chronic fatigue, impaired concentration, irritability, and decreased immunity, which has a direct impact on the decline in the physical and psychological well-being of the patient (Susilowati, 2024).

Sleep quality In DM patients, it occurs as a result of a combination of metabolic disorders, neurological complications, and hormonal changes that accompany the condition of chronic hyperglycemia. High blood glucose levels

lead to polyuria and nocturia, so sleep becomes fragmented. Glucose fluctuations, specifically nocturnal hypoglycemia, trigger the activation of the sympathetic nervous system and an increase in stress hormones, which provoke insomnia and difficulty returning to sleep. Peripheral neuropathy that often occurs in DM patients also causes pain at night, thus hindering the achievement of deep sleep and affecting the quality of life of DM patients. In addition, DM patients have a higher risk of developing *Obstructive Sleep Apnea (OSA)* as a result of chronic inflammation, insulin resistance, and changes in the structure of the airways, which lead to recurrent respiratory arrest and decreased sleep quality. Psychological factors such as anxiety and depression contribute to worsening sleep quality through disruption of melatonin regulation and increased sympathetic activity. Overall, these mechanisms interact with each other and cause DM patients to be susceptible to *sleep quality* the bad ones (Nemeth et al., 2022). Some studies in Indonesia show that *sleep quality* is a significant problem among patients with diabetes mellitus (DM). For example, a study at the Nanggalo Padang Health Center (2023) found that 75% of respondents with DM reported *sleep quality* the bad (Yazia et al., 2023).

According to The results of the research of several researchers on *sleep quality* with the quality of life of DM patients, including, Solang et al., (2025) At the Kabila Health Center, of the 96 respondents studied, most of the respondents had poor sleep quality ($p = 0.001$). Then according to research Peter and Penzel, (2020) in Sanang Barigas Palangka Raya, with 80 respondents. There was a significant correlation between sleep quality and quality of life ($P=0.001$). According to the results of the study Sanjaya et al, (2025) at the Pasundan Health Center displayed scores with 58 respondents. Statistical tests assessed that there was a significant and meaningful correlation between sleep quality and quality of life of people with type 2 DM obtained a value ($p=0.022$). According to the results of the study Trifa and Purwanti, (2024) in the working area of the Bendosari Sukoharjo Health Center with 63 respondents, there was a significant relationship between diabetic neuropathy and sleep quality in DM patients ($p=0.001$).

Based on the results of the visit on August 18 to 20, 2025 at the Puskesmas which will be the research site for researchers, namely at the Sawah Lebar Health Center, Bengkulu City, researchers found 136 DM patients in January-July 2025, the results of the initial survey of DM patients from consultation data at public polyclinics, 10 people felt a poor quality of life and including, Some experience *self-care management* disorders, and feel *sleep quality disorders*. Therefore, researchers want to conduct research on *self-care management* and *sleep quality* as a benchmark for the quality of life of DM sufferers.

B. Problem Formulation

As many as 30.98% of DM patients have a poor quality of life which can be influenced by various factors such as disturbances in self-care and sleep quality. So that thus this research question can be formulated "Is there a Relationship *between Self-Care Management and Sleep Quality* with the Quality of Life of Diabetic Mellitus Patients in the Work Area of the Bengkulu City Health Center?"

C. Research Objectives

1. General Purpose

It is known that the relationship between *self-care management and sleep quality* with the quality of life of people with diabetes mellitus in the working area of the Sawah Lebar Health Center, Bengkulu City.

2. Special Purpose

- a. It is known that the characteristics of the respondents include age, gender, type of diabetes mellitus, length of time they have had diabetes mellitus, type of therapy undergone, and family history.
- b. It is known about *the self-care management, sleep quality* and quality of life of people with diabetes mellitus in the working area of the Sawah Lebar Health Center, Bengkulu City.

- c. It is known that the relationship between *self-care management* and the quality of kidnappings of diabetic mellitus patients in the working area of the Sawah Lebar Health Center, Bengkulu City.
- d. It is known that the relationship between *sleep quality* and the quality of life of people with diabetes mellitus in the working area of the Sawah Lebar Health Center, Bengkulu City.
- e. It is known that the most dominant factor with the quality of life of people with diabetes mellitus in the working area of the Sawah Lebar Health Center, Bengkulu City.

D. Benefits of Research

1. For Health Services

This research can be used as a basis for educating and raising knowledge levels to the public regarding *self-care management* and *sleep quality* as a benchmark in the level of quality of life knowledge in people with diabetes mellitus.

2. For Educational Institutions

This research can be used as a scientific literature in the field of medical-surgical nursing and as a reference in the development of nursing science, especially related to the relationship between *self-care management* and *sleep quality* and quality of life.

3. For Diabetic Mellitus Sufferers

This study can add knowledge of DM sufferers about the relationship between *self-care management* and *sleep quality* with quality of life so that DM sufferers are able to manage.

4. For the Next Researcher

Researchers can apply the knowledge that has been obtained during their lecture period and are able to think more critically in conducting the research process. Then gain experience conducting research with the right methodology and gain more knowledge on the relationship between *self-*

care management and *sleep quality* with quality of life which is included in the field of medical surgical nursing.

