CHAPTER I
INTRODUCTION

1.1 Background

Osteoarthritis genu is a degenerative disease of the knee joint characterized by damage to the articular cartilage, changes in the subchondral bone, and mild inflammation of the joint. Osteoarthritis is a common health problem in the elderly and a leading cause of pain and disability in the elderly population. This condition can cause chronic pain, joint stiffness, limited range of motion, and decreased ability to perform daily activities, thus reducing the level of independence in the elderly (World Health Organization, 2023).

With age, muscle mass and strength decrease, contributing to reduced knee joint stability. In older adults with osteoarthritis genu, muscle weakness, particularly in the quadriceps femoris, can exacerbate physical dysfunction and increase the risk of dependence in meeting daily needs. This decline in functional ability can hinder basic activities such as walking, standing, climbing stairs, and performing self-care (Kisner & Colby, 2017). Furthermore, joint damage in osteoarthritis genu can cause muscle and tendon weakness, resulting in limited physical activity, which can reduce quality of life andproductivity of the elderly in carrying out daily activities (Astri et al., 2024).

The WHO states that knee osteoarthritis is a leading cause of disability and a significant reduction in quality of life globally. As a result, approximately 80% of osteoarthritis sufferers experience significant mobility limitations, even to the point of being unable to perform daily activities (Ariyanti, 2021). In

Indonesia, the prevalence of knee joint disease, according to the 2018 Basic Health Research (Riskesdas), reached 7.3%, with a prevalence of 6.1% in men and 8.5% in women. The incidence of knee osteoarthritis tends to increase with age, reaching 18.6% in those over 65 and 18.9% in those over 75.(Amanati & Wibisono, 2022). Data from the Ministry of Health also shows that the number of people suffering from joint diseases, especially osteoarthritis genu, reached 55 million people (24.7%), with a prevalence of 45% in the 55–64 age group, 51.9% in the 65–74 age group, and 54.8% in the age group above 75 years (Dewi, 2011).

At the regional level, the prevalence of osteoarthritis of the genu in East Java is estimated at 6.72%. This condition is most commonly found in the age group 75 years and older, with a prevalence of 18.95%. Furthermore, osteoarthritis of the genu is more common in women, with a prevalence of 8.46% compared to men, who have a prevalence of 6.13% (Riskesdas, 2018). Meanwhile, in Malang City, the prevalence of osteoarthritis of the genu in residents under 70 years of age reached 6.2% in men and 15.5% in women. These incidence figures include joint damage to the knees, which impacts physical limitations in meeting daily needs.(Nowadays, 2020).

One of the recommended non-pharmacological interventions for addressing functional impairment in osteoarthritis of the genu is strengthening exercise. Strengthening exercise is a muscle-strengthening exercise widely used as an intervention in rehabilitation programs for patients with osteoarthritis of the genu. This exercise has been shown to be more effective in reducing

symptoms and improving joint function compared to the use of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs). Furthermore, muscle-strengthening exercises have a greater contribution to injury prevention, namely 69%, compared to proprioceptive exercises which contribute 45% and stretching exercises (4%). This exercise can help increase muscle strength, expand range of motion (ROM), improve balance, enhance cardiopulmonary function, and support the patient's ability to perform activities of daily living (ADL) independently (John et al., 2022).

Apart from physical exercise, family support is an important factor that influences the success of rehabilitation programs for osteoarthritis genu sufferers, especially in the elderly.Family involvement can help increase motivation, adherence, and consistency in older adults' exercise routines. Families also act as a support system, helping older adults overcome obstacles during an exercise program. Optimal family support can enhance the success of interventions and help maintain the long-term independence of older adults (Friedman, Bowden, & Jones, 2014).

Based on this description, implementing strengthening exercises with family involvement is one way to increase independence in older adults with genu osteoarthritis. Through regular muscle-strengthening exercises and family support, it is hoped that functional abilities, dependency, and quality of life will improve in older adults with genu osteoarthritis.

2.1 Formulation of the problem

Based on the background above, the problem formulation that can be taken is "How is the implementation of strengthening exercise with family involvement to increase the independence of Lanisa with osteoarthritis genu?"

3.1 Purpose

1.3.1 General purpose

This study aims to provide family nursing care to the elderly with genu osteoarthritis through the implementation of strengthening exercises with family involvement to increase the independence of the elderly in carrying out daily activities.

1.3.2 Special purpose

a. Can conduct family nursing assessments on elderly people with genu osteoarthritis who experience decreased independence in daily activities through the implementation of strengthening exercises with family involvement.
b. Can establish a family nursing diagnosis in the elderly with osteoarthritis genu based on the results of the assessment related to the independence and functional abilities of the elderly
c. Can prepare appropriate family nursing action plans to increase the independence of elderly people with genu osteoarthritis through strengthening exercise programs with family involvement.

d. Can carry out family nursing interventions in the form of strengthening exercise implementation by involving the family as companions, motivators, and exercise supervisors for elderly people with genu osteoarthritis.
e. Can evaluate the implementation of family nursing actions through the implementation of strengthening exercises with family involvement in increasing the independence of elderly people with genu osteoarthritis