CHAPTER V

DISCUSSION

The focus of discussion in this chapter is the implementation of nursing care for an elderly person with sleep pattern disorders, namely Mrs. Y. The description presented includes the results of the implementation of nursing care in meeting sleep needs, accompanied by an analysis of supporting factors and differences found between theory and actual conditions in the field. The discussion is carried out based on each stage of the nursing process, namely assessment, determination of nursing diagnosis, planning, implementation, and evaluation.

5.1 Assessment

The assessment phase for Mrs. Y was conducted on April 28, 2026, as the initial phase of the case study. At this stage, data was collected through several techniques, including direct observation, client interviews, medical record review, and nursing documentation. The information obtained was then classified into subjective and objective data according to the needs of the nursing process.

The case study was conducted at the client's residence on Jalan Danau Paniai III, RT 01 RW 10, Kedungkandang District, Malang City, East Java, involving one respondent. Primary data was obtained directly through interviews and observations of the client. In addition, supporting data was also collected from medical records available at the Gribig Community Health Center to strengthen the case study findings. All collected data were then

analyzed in accordance with the research objectives and presented in tables and descriptive sections.

The assessment of Mrs. Y, 60, with a medical diagnosis of hypertension, showed complaints of difficulty falling asleep for approximately two months. The client reported that she needed approximately 1–2 hours to fall asleep, frequently woke up during the night, was dissatisfied with the quality of her sleep, and felt that she was not getting enough rest, resulting in her body still feeling tired when she woke up in the morning. Furthermore, the client reported that her sleep pattern had changed to later at night than before. The assessment also showed that Mrs. Y had a habit of watching Chinese dramas on her mobile phone before bed. The client reported that her physical activity had decreased since her child took over the catering business, which she previously actively managed. Furthermore, the client frequently woke up at night to urinate. Measurement of sleep quality using the Pittsburgh Sleep Quality Index (PSQI) showed a score of 13, indicating poor sleep quality.

Sleep pattern disorders are conditions in which individuals experience changes in the quantity or quality of sleep, resulting in discomfort and impaired daily functioning (PPNI, 2017). In the elderly, physiological changes in the sleep system occur due to the aging process, causing a reduction in the depth of sleep phases, increased frequency of nighttime awakenings, and decreased sleep efficiency, making them more susceptible to sleep pattern disorders (Potter & Perry, 2023). One factor that can affect sleep quality is the use of electronic devices before bedtime. The blue light emitted by mobile phone screens can inhibit the release of melatonin, a hormone that plays a role in

regulating the sleep cycle, making it take longer for a person to fall asleep and increasing the risk of decreased sleep quality (Hershner & Chervin, 2022). Furthermore, inadequate levels of physical activity are also associated with sleep disorders. Physical activity helps the body maintain a regular circadian rhythm, increases physiological fatigue, and supports the transition to sleep at night (World Health Organization, 2023). In addition, nocturia or the habit of urinating at night is one of the most common factors causing sleep fragmentation in the elderly group, resulting in decreased sleep quality (Vaz Fragoso & Gill, 2021).

According to the authors, Mrs. Y's sleep disturbance is not solely influenced by age but is the result of the interaction of several interrelated factors. The habit of watching dramas on her mobile phone before bed causes visual stimulation and blue light exposure, which inhibits sleep. Furthermore, reduced physical activity after her child took over the catering business resulted in lower daily energy expenditure, thus decreasing the physiological drive for sleep. The authors argue that the client's nocturia worsened sleep quality by causing fragmented sleep. This is evident from the client's complaints of frequent nighttime awakenings and difficulty falling back asleep. These findings align with the theory that sleep quality in the elderly is influenced by interacting biological, psychological, behavioral, and environmental factors (Vaz Fragoso & Gill, 2021). Thus, the study results demonstrate a congruence between the field data and existing theories.

5.2 Nursing Diagnosis

Based on the assessment data, the author determined a nursing diagnosis of Sleep Pattern Disorder (D.0055) related to lack of sleep control characterized by the client complaining of difficulty starting to sleep, frequently waking up at night, dissatisfaction with the quality of sleep, changing sleep patterns to later at night, feeling less refreshed when waking up, and the PSQI results showing a score of 13 which is included in the poor sleep quality category.

According to the Indonesian Nursing Diagnosis Standards (SDKI), sleep pattern disorders are conditions in which an individual experiences changes in the amount and quality of sleep that disrupt daily functioning (PPNI, 2017). Major diagnostic data for sleep pattern disorders include complaints of difficulty sleeping, frequent awakenings, complaints of dissatisfaction with sleep, changes in sleep patterns, and complaints of insufficient rest (PPNI, 2017).

According to the authors, the diagnosis of Sleep Disorder in Mrs. Y was appropriate because all major IDHS data were found in the client. Furthermore, the use of the PSQI instrument strengthened the clinical decision-making process by providing an objective picture of the client's sleep quality. Although the PSQI score is not part of the major IDHS data, the results can be used as supporting data to measure the progress of sleep quality during the intervention.

The results of this case study have similarities with the research of Anugrah et al. (2023) which reported that the elderly with poor sleep hygiene

tend to experience sleep pattern disturbances due to lack of control over sleep schedules, habits before bed, and low physical activity. In the study, most of the respondents had difficulty starting sleep, often woke up at night, and had poor sleep quality scores. The condition was similar to that of the patients in this case study, so the etiology of lack of sleep control was considered appropriate as the main cause of sleep pattern disturbances.

However, the etiology of diagnosis in this case study is different from some previous studies. The research conducted by Febrianti and Indrawati (2021) using a case study design on two elderly people with hypertension at UPTD Griya Werdha Jambangan Surabaya also established the diagnosis of Sleep Pattern Disorders, but the main cause of sleep disorders is associated with comorbidities, namely hypertension which causes discomfort that interferes with sleep quality. These differences suggest that even if the nursing diagnosis is the same, the underlying etiology can differ according to the results of the assessment in each patient..

Etiological differences were also found in Putri's (2026) study which used a case study design on a 69-year-old elderly woman with insomnia at the Kemuning Posyandu, Palangka Raya City. In the study, the diagnosis of Sleep Pattern Disorders was established with the etiology of insomnia and poor sleep hygiene which caused patients to have difficulty starting sleep and often waking up at night. Although both are related to sleep habits, in Mrs. Y's case study the main cause found was lack of sleep control which was aggravated by low physical activity, while in the study sleep disorders were more predominantly influenced by insomnia conditions.

In addition, the research of Zulhijjah and Juanita (2025) using a case study design on an elderly woman with gout arthritis also established the diagnosis of Sleep Pattern Disorders, but the etiology found was chronic pain. Increased pain at night causes patients to wake up often so that their sleep continuity is disrupted. The etiology is different from the case study of Mrs. Y who did not complain of pain as the main factor of sleep disorders, but had poor sleep habits and low physical activity.

Based on this comparison, it can be concluded that although the nursing diagnosis in some studies is the same, namely Sleep Pattern Disorders, the underlying etiology can vary, such as lack of sleep control, comorbidities, and chronic pain. Differences in etiology are influenced by clinical conditions, comorbidities, and the results of studies in each patient. Therefore, the determination of etiology must be adjusted to the assessment data so that the interventions provided can address the main causes of sleep disorders appropriately.

5.3 Nursing Interventions

Based on the nursing diagnosis of Sleep Pattern Disorder, the author developed a nursing plan with the aim of improving Mrs. Y's sleep quality. The outcomes set refer to the Indonesian Nursing Outcome Standards (SLKI), namely decreasing complaints of difficulty sleeping, decreasing complaints of frequent waking at night, decreasing complaints of dissatisfaction with sleep, decreasing complaints of changing sleep patterns, decreasing complaints of insufficient rest, and increasing sleep quality as measured using the Pittsburgh Sleep Quality Index (PSQI) instrument. To achieve these goals, the author

developed interventions in the form of Sleep Support (I.05174) and Activity and Rest Education (I.12362) combined with the innovation of elderly fitness exercises three times a week for two weeks.

Nursing planning is a crucial step in the nursing process, aimed at determining the most appropriate action to achieve the desired outcomes based on the problems identified during the assessment phase (Potter & Perry, 2023). To address sleep pattern disturbances, the Sleep Support intervention is implemented to help clients identify factors that can impact sleep, develop healthier sleep habits, and obtain information on ways to improve sleep quality (PPNI, 2018). This intervention is complemented by Activity and Rest Education, which aims to increase client understanding of the importance of balancing physical activity and rest in maintaining sleep quality. Regular physical activity is known to positively impact sleep patterns in the elderly because it helps regulate the body's biological rhythms, increases energy expenditure, and supports better sleep efficiency. Therefore, physical activity in the form of elderly fitness exercises can be used as an effective non-pharmacological therapy to help address sleep pattern disturbances in the elderly (World Health Organization, 2023).

According to the author, the nursing care plan prepared was appropriate to Mrs. Y's condition and needs. This was because all selected interventions not only focused on the symptoms of sleep disorders experienced by the client, but also targeted the factors that contributed to the emergence of these problems. The assessment results found that the client had a habit of watching dramas on her mobile phone before bed, experienced a decrease in physical activity since

her catering business was managed by her child, and often woke up at night to urinate. The implementation of Sleep Support accompanied by Activity and Rest Education not only helped the client recognize factors that affect sleep quality, but also increased the client's motivation to adopt healthier habits to support optimal fulfillment of rest needs. The author also believes that the insertion of elderly fitness exercises into the intervention was an appropriate step because it directly addressed one of the main factors found in the case, namely decreased physical activity. Increasing physical activity through elderly fitness exercises is expected to increase normal physiological fatigue, help the sleep initiation process, improve sleep duration, and improve overall sleep quality. Thus, the nursing care plan prepared is not only curative for complaints of sleep disorders, but also promotive and preventive through the formation of a healthier lifestyle in the elderly.

5.4 Nursing Implementation

The implementation of nursing in this case study was carried out six meetings over two weeks with a frequency of three times a week. Each meeting begins with an evaluation of the patient's sleep condition through an interview using components in the Pittsburgh Sleep Quality Index (PSQI) to monitor the development of the patient's sleep pattern, then continues with education about activities and rest as well as the implementation of fitness exercises for the elderly for approximately 30 minutes. In addition, at each visit, observations were made on the patient's ability to follow gymnastic movements, the level of enthusiasm, and the changes felt by the patient after participating in the exercise.

At the first meeting, the patient was still in the stage of adaptation to the elderly fitness program. The patient appeared stiff in following some movements, occasionally stopped the movement to adjust the body position, and still needed a direct example from the researcher. Based on the results of the evaluation, patients still sleep about four hours every night, take 1-2 hours to fall asleep, and still wake up often at night. In addition, patients also still have the habit of watching dramas on their mobile phones before going to bed and their daily physical activities are relatively light. Entering the second meeting, the patient began to show progress in participating in gymnastic movements. Although the coordination of movements was not fully optimal, the patient appeared more confident and was able to follow almost the entire series of gymnastics without much stopping. Patients also began to try to implement an agreed sleep schedule and reduce the use of mobile phones before bed, although the quality of sleep has not changed significantly because they still wake up at night. At the third and fourth meetings, the patient's ability to participate in gymnastics increased. The patient begins to remember the sequence of movements so that only occasionally sees the instructor as an example. Coordination of movements becomes better and the patient no longer gets tired easily during exercises. In line with this increase in physical activity, patients began to report changes in their sleep patterns, namely sleep time increased to about five to six hours each night, the time needed to fall asleep became shorter, mobile phone use before bed decreased, and patients began to do additional physical activity, such as walking to the market with their husband when there was no gymnastics schedule. At the fifth and sixth

meetings, the patients were able to perform the entire series of gymnastics movements independently with good coordination and seemed more enthusiastic during the activity. Patients even begin to enjoy gymnastics activities and are motivated to stay active in daily physical activities. Evaluations show that the patient's sleep quality is improving, characterized by the duration of sleep reaching six to seven hours every night, waking up only once to urinate and being able to return to sleep easily, and feeling refreshed when waking up in the morning. In addition, patients have been able to maintain a pre-arranged sleep schedule, limit the use of mobile phones before bed, and make fitness exercises for the elderly part of their regular activities.

Implementation is the stage of implementation of the nursing plan that has been prepared to achieve the expected output. The success of implementation is influenced by the suitability of actions to the client's problems as well as the client's active involvement during the nursing care process (Potter & Perry, 2023). Physical activity is one of the recommended nonpharmacological approaches in overcoming sleep disorders in the elderly. Light to moderate intensity aerobic physical exercise has been shown to shorten the time it takes to start sleep (sleep latency), improve sleep efficiency, extend sleep duration, and decrease the frequency of waking up at night (Kredlow et al., 2022). Fitness gymnastics for the elderly is a form of physical activity designed according to the abilities and physiological conditions of the elderly. Movements that are performed regularly can improve blood circulation, improve cardiovascular function, increase muscle flexibility and strength, and stimulate the release of endorphin hormones that provide a relaxing and

comfortable effect on the body (Ministry of Health of the Republic of Indonesia, 2022). In addition, regular physical activity is able to increase energy expenditure during the day, thus helping the body's physiological processes to initiate and maintain sleep at night (World Health Organization, 2023). Several studies have also shown that regular exercise for the elderly can significantly improve sleep quality, which is characterized by a decrease in the Pittsburgh Sleep Quality Index (PSQI) score, reduced sleep difficulties, and increased sleep satisfaction in the elderly (Sari et al., 2023).

According to the author, the implementation of fitness gymnastics for the elderly is an important component in the success of nursing care for Mrs. Y because this intervention directly targets one of the main factors found during the study, namely the decrease in physical activity after the catering business that she has managed for many years has been passed on to her child. Before the intervention was given, the client's daily activities were only limited to light household chores so that the need for physical activity that can support sleep quality has not been optimally met. The author argues that fitness gymnastics for the elderly not only provides physiological benefits in the form of improved body fitness, but also provides psychological benefits through the emergence of feelings of pleasure, relaxation, and excitement after participating in gymnastics activities. This can be seen from the development of the client who at the beginning of the meeting still seemed stiff when participating in gymnastic movements, then gradually being able to follow the entire series of movements more smoothly, even at the last meeting the client was able to do movements independently and invite other elderly people to participate.

According to the authors, the change shows that fitness gymnastics for the elderly does not only serve as a form of physical exercise alone, but also as a means to increase motivation, social interaction, and active involvement of clients in maintaining their own health. This opinion is supported by the theory of active aging which explains that the elderly who remain physically and socially active tend to have a better quality of life and sleep quality than the elderly who are less active (World Health Organization, 2023). Thus, the author considers that the application of fitness gymnastics for the elderly as a non-pharmacological therapy combined with sleep support and activity-rest education is the right strategy in helping to improve Mrs. Y's sleep quality, because the intervention provided not only addresses the symptoms of sleep disorders but also addresses the underlying causative factors.

The results of the implementation in this case study are in line with the research of Tsani, Kurniawati, and Kurniawati (2024) which used a case study research design on two elderly people, namely Mrs. J (63 years old) and Mrs. Y (62 years old), who experienced mild to moderate insomnia in Soborejo Village, Pringsurat District. The study provided an intervention in the form of elderly gymnastics three times for six days, carried out every two days with a duration of 15 minutes per session. The results showed that there was an improvement in sleep patterns which was characterized by a decrease in the Insomnia Rating Scale (IRS) score from 24 (mild insomnia) to 11 (no insomnia complaints) in both respondents. Although the duration of the intervention in the study was shorter than the case study, which was six days, while the implementation in Mrs. Y was carried out for two weeks with six meetings and

a duration of 30 minutes per session, both studies showed that regular physical exercise was able to improve the sleep patterns of the elderly. The difference in the number of sessions and the duration of the intervention may be influenced by the research objectives, the characteristics of the respondents, and the form of exercise given.

The findings of the study of Kause, Manafe, and Amat (2018) which used a quasi-experimental pretest-posttest with control group design in 36 elderly people, consisted of 18 intervention group respondents and 18 control group respondents. In the study, participants in the intervention group were given low-impact aerobic gymnastics three times every week for three weeks, then sleep quality was evaluated using the Pittsburgh Sleep Quality Index (PSQI). The results showed a significant improvement in sleep quality in the intervention group compared to the control group ($p = 0.000$). Although the duration of the intervention in the study was longer than this case study, both showed that regular physical exercise several times a week was able to improve the sleep quality of the elderly.

The findings of this case study are also supported by the research of Anggraini et al. (2022) who used a pre-experimental design of one group pretest-posttest on 20 elderly people. The study provided Tai Chi gymnastics interventions three times weekly for eight weeks and evaluated sleep quality using PSQI. The results showed that after eight weeks of intervention there was a significant improvement in sleep quality in all respondents. The duration of the intervention in the study was indeed longer than this case study, but both showed the same pattern of changes, namely improved sleep quality after

regular and repeated physical exercise. This shows that the benefits of gymnastics on sleep quality are gradual because the body needs time to adapt to physical activities that are done consistently.

5.5 Nursing Evaluation

Based on the Pittsburgh Sleep Quality Index (PSQI) results, the total score decreased from 13 on the first day to 5 on the sixth day. This decrease indicates improved sleep quality following nursing interventions such as sleep support, activity and rest education, and elderly fitness exercises. The most significant changes were seen in sleep latency, sleep duration, and sleep efficiency.

In the sleep latency component, the score decreased from 3 on the first day to 1 on the fifth and sixth days. This change indicates that the client's time to fall asleep was decreasing. Based on the implementation results, at the beginning of the intervention, the client needed approximately 1–2 hours to fall asleep and still had the habit of watching Chinese dramas on her mobile phone before bed. After being educated about factors affecting sleep quality, the client began to reduce her mobile phone use at night and attempted to adhere to the agreed-upon sleep schedule. Furthermore, the client regularly participated in elderly fitness exercises three times a week. Regular physical activity is known to increase energy expenditure, raise body temperature during activity, and stimulate the body's recovery process after exercise, thus facilitating the onset of sleepiness at night. This condition resulted in the client falling asleep more easily than before the intervention (Kredlow et al., 2015).

Significant changes were also seen in the sleep duration component. The sleep duration component score decreased from 3 on the first day to 0 on the sixth day. At the initial assessment, the client only slept about 4 hours per night. After participating in several elderly fitness exercises and starting a more regular sleep schedule, sleep duration increased to 5 hours on the third day, 6 hours on the fourth day, and reached 7 hours on the fifth to sixth days. This increase in sleep duration indicates that the client's sleep needs are beginning to be met. According to the World Health Organization (2022), regular physical activity in the elderly can help increase total sleep time by increasing the body's physiological need for rest. These results align with research by Yang et al. (2012) which states that regular physical exercise can increase total sleep time and sleep quality in the elderly.

The sleep efficiency component also showed positive improvement, marked by a decrease in the score from 2 on the first day to 0 on the fourth to sixth days. Sleep efficiency reflects the ratio of time spent sleeping to time spent in bed. At the beginning of the intervention, the client spent considerable time in bed due to difficulty falling asleep and frequent nighttime awakenings. However, after the client began implementing a regular sleep schedule, reducing cell phone use before bed, and regularly participating in elderly fitness exercises, the time spent actually sleeping became more optimal. The client also reported that although she still woke up once during the night to urinate, she was able to fall back asleep more easily. This condition caused sleep efficiency to gradually increase until it reached the good category on the fourth day.

The subjective sleep quality component saw a decrease in score from 2 to 1 starting on the fourth day. This change was demonstrated by the client's statement that she felt more refreshed upon waking in the morning, fell asleep more easily at night, and felt her sleep quality was better than before participating in the elderly fitness exercise program. According to Buysse et al. (1989), an individual's perception of sleep quality is strongly influenced by feeling refreshed upon waking and satisfaction with the sleep she received. Therefore, the improvement in subjective sleep quality in the client indicates that the benefits of the intervention have begun to be directly felt by the client.

For the sleep disturbance component, the score remained at 1 because the client still woke up once during the night to urinate. This condition is still considered normal in the elderly because the aging process causes decreased bladder capacity and changes in urinary system function, making elderly people more likely to experience nocturia (Miller, 2019). However, the client was able to return to sleep easily after waking, in contrast to the initial condition, which required a long time to fall asleep. According to Potter and Perry (2021), sleep quality is assessed not only by the frequency of nighttime awakenings but also by the individual's ability to return to sleep. Therefore, although the sleep disturbance component score remained unchanged, the client's condition still showed improvement in overall sleep quality.

The sleep medication use component remained at a score of 0 throughout the study because the client did not use any form of sleep medication. This indicates that the client's sleep quality improvement was

achieved through non-pharmacological approaches, including education, activity and rest management, and elderly fitness exercises.

For the daytime dysfunction component, the score remained at 2 until the end of the intervention. Although the client reported feeling more refreshed and more active in daily activities, these changes were not significant enough to alter the PSQI score category. This is likely due to the relatively short duration of the intervention, two weeks, which meant the impact of sleep quality on daytime function was not yet fully apparent. However, clinically, the client showed signs of improvement, including increased enthusiasm for activities and reduced fatigue upon waking.

Improved sleep quality is characterized by reduced insomnia, reduced frequency of nighttime awakenings, increased sleep satisfaction, increased sleep duration, and improved subjective and objective sleep quality (Buysse et al., 2021). Regular physical activity has been shown to positively impact sleep quality in older adults by improving circadian rhythms and increasing sleep efficiency (World Health Organization, 2023).

According to the authors, the improvement in Mrs. Y's sleep quality indicates that Senam Bugar Lansia (Lansia Fitness Exercise) can be used as an effective non-pharmacological therapy to help address sleep pattern disorders in the elderly. This success was reinforced by changes in sleep behavior that occurred during the intervention process, such as reduced cell phone use before bed, increased daily physical activity, and consistency in maintaining a sleep schedule. However, the authors assessed that there was still a factor that could

not be optimally modified, namely nighttime urination habits. Although the client still woke up once to urinate, she was able to return to sleep more easily. Therefore, the improvement in sleep quality that occurred indicates that the intervention was successful in improving most of the factors causing sleep pattern disorders, although it did not eliminate all influencing factors. This is in line with the concept of sleep management in the elderly, which emphasizes controlling risk factors and optimizing healthy behaviors to gradually improve sleep quality (Potter & Perry, 2023).

5.6 Mrs. Y's Sleep Quality Index

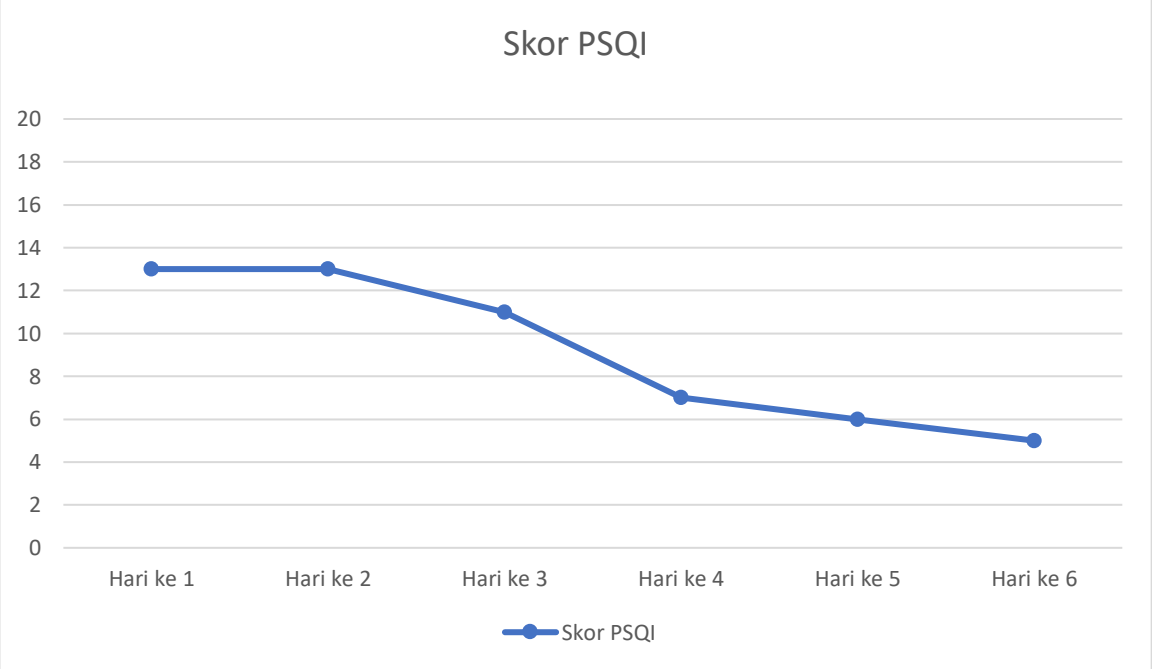

Figure 5. 1 Improvement in Sleep Quality Based on PSQI Scores in Mrs. Y Following the Implementation of Elderly Fitness Exercise in the Gribig Community Health Center Service Area Malang 2026

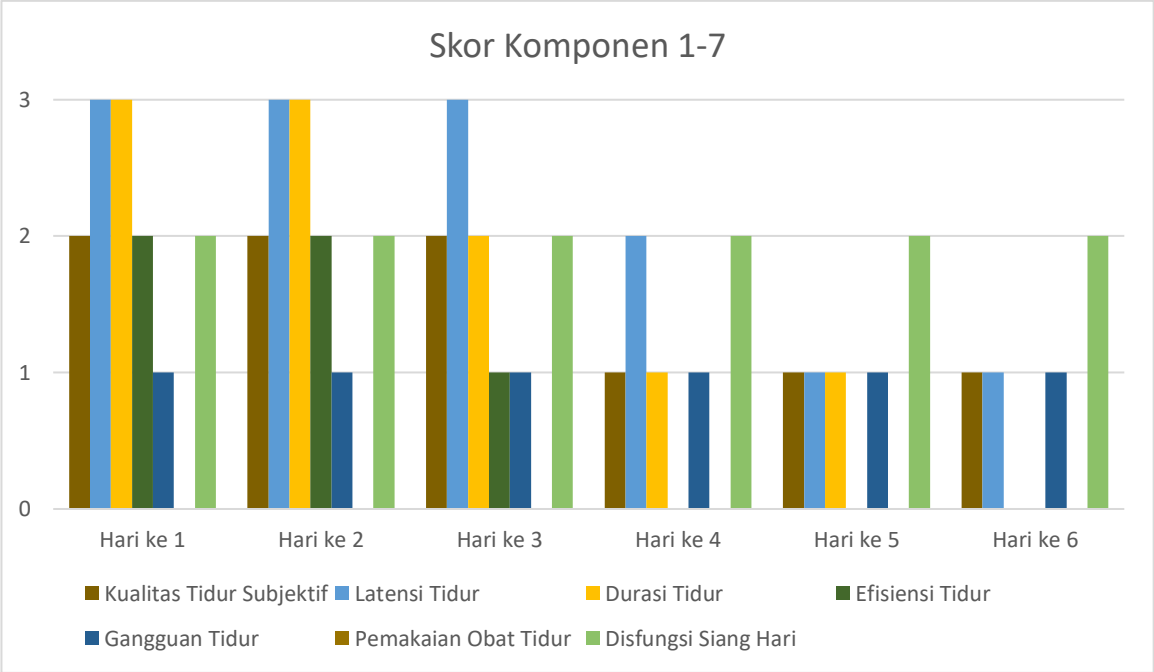

Figure 5. 2 Changes in PSQI Component Scores of Mrs. Y During the Implementation of Elderly Fitness Exercise in the Gribig Community Health Center Service Area, Malang 2026

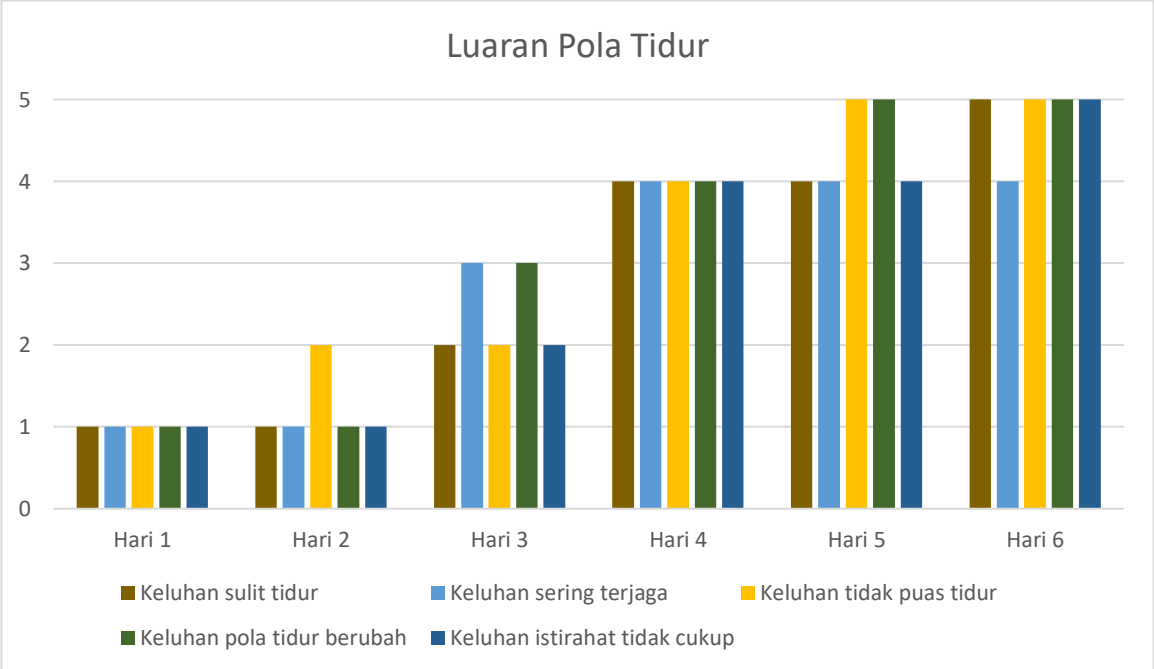

Figure 5. 3 Changes in Sleep Pattern Outcomes of Mrs. Y During Nursing Interventions in the Gribig Community Health Center Service Area, Malang 2026