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NURSING CARE OF TYPE II DIABETES MELLITUS PATIENTS

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ABSTRACT

Background*: Type II Diabetes Mellitus is a chronic disease with a high prevalence in Indonesia. As nursing care providers, nurses have an essential role in managing patients with type II Diabetes Mellitus.* ***Purpose:*** *Get an overview of the implementation of nursing care in patients with Type II Diabetes Mellitus.* ***Methodology:*** *A case study was conducted on Mrs. D in Dahlia Room RSUD Ciamis on 27 - 30 June 2022.* ***Results:*** *The results of the nursing evaluation obtained: ineffective peripheral perfusion, acute pain, nutritional deficits, impaired skin integrity, unstable blood glucose levels, impaired physical mobility, and disturbed sleep patterns are partially resolved, and the risk of hypovolemia has been determined.* ***Conclusion****: Nursing care carried out can overcome the problems experienced by patients.*

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PRELIMINARY

International Diabetes Federation states that cases of diabetes mellitus in the world have reached up to 285 million people out of 7.53 billion people worldwide (CHO, Nam H., et al., 2018). In comparison, Indonesia has some incidents of type II diabetes mellitus, currently reaching 10.3 million people. It is expected to experience a very drastic increase to a range of 16.7 million people in 2045 (Riskesdas, 2018 *in* Renaldi, H.A., et al., 2022).

Type II diabetes mellitus is a chronic disease with metabolic disorders characterized by high blood glucose levels associated with the abnormal metabolism of carbohydrates, fats, and protein that can cause a decrease in insulin secretion or a reduction of adequate insulin sensitivity.CHO, Nam H., et al., 2018).

More than half of the disease burden is Diabetes Mellitus due to an unhealthy lifestyle (CHO, Nam H. et al., 2018). Other causes include age, obesity, family history, and smoking (Militia, Handayani, and Setiaji, 2021).

Diabetes mellitus can cause several nursing problems that interfere with basic human needs. So that comprehensive care is needed (Sudoyo, 2014).

Acute symptoms of Type II DM patients consist of polyuria (frequent urination), polydipsia (always wanting to drink), polyphagia (eating more), weight loss, malaise or weakness, tingling, cramps, thick feeling on the skin, drowsiness, blurry eyes, itching around the genitals, especially in women, loose and loose teeth, and decreased sexual ability (Fatimah, 2015). The short-term goal of DM management is to eliminate DM signs and symptoms, maintain a sense of comfort and achieve blood glucose control targets. Long-term: preventing and delaying the progress of microangiopathy, macroangiopathy, and neuropathy complications. At the same time, the ultimate goal of DM management is to reduce DM morbidity and mortality. To achieve this goal, it is necessary to control blood glucose, blood pressure, weight, and lipid profile, through holistic patient management by teaching self-care and behavior change.

Conceptually, the nursing problems that may arise in patients with diabetes mellitus are ineffective peripheral perfusion, acute pain, nutritional deficits, unstable blood glucose levels, activity intolerance, impaired skin/tissue integrity, impaired physical mobility, disturbed sleep patterns, risk of hypovolemia, and risk of infection (Tim Pokja SDKI, 2017)

Seeing the many impacts of DM disease that interfere with patients' basic needs, it should get attention from all groups, including nurses. The author conducts Nursing Care for Type II Diabetes Mellitus patients held at the Ciamis District Hospital. The purpose of writing is to get an overview of the implementation of nursing care in patients with Type II Diabetes Mellitus, starting from the assessment stage to the evaluation.

METHOD

This study uses the case study method with a nursing care process approach, including assessment, data analysis, diagnosis, planning, action implementation, and evaluation. A case study was conducted on a patient medically diagnosed with Type II Diabetes Mellitus at Ciamis Hospital.

Data was collected through anamnesis, physical examination, and documentation studies. After the data was collected, the authors grouped the data obtained from the results of the assessment and the physical examination results, then analyzed it so that a nursing diagnosis was obtained according to the patient's condition. The diagnosis results will provide a reference for interventions, actions, and evaluation processes to be carried out. The case study was carried out for three days of treatment (28-30 June 2022).

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RESEARCH RESULT

The patient is a woman aged 60 years and nine months; her last education is junior high school; the patient is a housewife medical diagnosis of Diabetes Mellitus Type II. The patient came to the hospital on June 27, 2022, with complaints of a non-healing wound on the right leg. Patients also complain of weakness, lethargy, dizziness, difficulty sleeping, and polyuria. The patient said he had lost weight for 2 weeks from 50 kg to 44 kg. In addition, the patient complains of frequent tingling.

During the assessment on Tuesday, June 28, 2022, at 08.00 WIB, the main complaint was pain in a gangrenous wound in the lower right leg; the pain felt like being stabbed by a sharp object, the pain felt in the lower right extremity, pain scale 6 (1-10), intermittent pain, pain especially when the leg is moved.

The patient had Type II DM 2 years ago and had three toes amputated, and the patient said he had never exercised regularly. The patient said none of his members had ever had/suffered from Type II DM/other genetic diseases.

The patient's general condition looks weak, occasionally grimaces is restless, and has diaphoresis. Examination of vital signs showed: Blood pressure 130/90 mmHg, ABI index 0.76, pulse rate 121 x/minute, respiratory rate 21 x/minute, temperature 36.5^{THE}C, SpO_2 96%, BB 44 kg, height = 155 BMI = 18,314 (Less).

The patient did not finish the food served, but complained of hunger, drank 2200 cc of mineral water with complaints of frequent thirst in the middle of the night, slept only 2 hours at night in 24 hours, had difficulty sleeping because of pain and frequent vomiting, took half an hour of naps, had difficulty sleeping because of pain and complaints sleep dissatisfied. Rest is not enough even though it is lying down, and sleeping seems complicated because it seems to pee frequently. BAK more or less 14 x in 24 hours = 4400 cc. The patient can mobilize independently but is sometimes assisted by the family; movement is limited to the right lower extremity. The patient complains of difficulty moving the right lower extremity and pain when moving the right leg.

At the time of physical examination of the digestive system, the mouth looks dry, the mucous membranes are pale. On the integumentary system, there is a wound on the right leg (leg) with a length of 5 cm and a width of 1 cm; with the primary color of the wound not being red, there is damage to the skin layer on the right lower extremity. The results of the assessment of muscle strength of the upper extremity 4, lower left extremity 4, and lower right extremity 3.

Laboratory data showed Hb 8.6 g/dL, HCT 24.8%, WBC 15.6 mg%, Neutrophils 84%, lymphocytes 10%, fasting blood sugar 378 mg/dL, and creatinine 1.13 mg/dL. Patients received therapy with ceftriaxone, Metronidazole, Ranitidine, RL + Ketorolac infusion, and Apidra (insulin).

Nursing care

Nursing Diagnosis 1: Ineffective peripheral perfusion related to hyperglycemia

Implementation: Check pulse, identify risk factors for circulatory disorders, monitor heat, redness, pain, or swelling in the extremities, put infusions, take blood specimens, clean the outside of the wound, *Buerger Allen Exercise*.

Nursing Diagnosis 2: Acute pain related to a physical injurious agent

Implementation: Identifying pain (location, characteristics, frequency, intensity, scale), identifying non-verbal pain responses, providing deep breathing relaxation techniques, advising rest, collaborating to continue ketorolac drug therapy 1 g drip on RL infusion.

Nursing Diagnosis 3: Nutritional deficit related to the inability to absorb nutrients

Implementation: Identify food allergies/tolerances, ask about food intake, weigh weight, perform oral hygiene, provide food at the appropriate temperature, provide food according to nutritional therapy (DM diet), education, provide antacids, consult nutrition.

Nursing Diagnosis 4: Impaired skin integrity related to peripheral vascular damage

Implementation: Wound care (cleaning the wound with NaCl, cutting necrotic tissue, applying wound dressings according to the type of wound, maintaining sterile technique when treating wounds, explaining signs and symptoms of infection, giving antibiotics

Nursing Diagnosis 5: Unstable blood glucose levels related to insulin retention.

Implementation: Identify possible causes of hyperglycemia, check GDS, monitor signs and symptoms of hyperglycemia, monitor *intake* and *output* fluids, anticipate with other nurses if there are signs of hyperglycemia symptoms again, recommend a DM diet, give insulin Apidra 3 x 10 units.

Nursing Diagnosis 6: Impaired physical mobility related to pain

Implementation: Ask about pain / other physical complaints, see the general condition of the patient, whether there is a decrease in the condition / not, invite the family to help with movement, especially the right extremity, recommend ambulation such as sitting, walking, practicing ROM.

Nursing Diagnosis 7: Disturbed sleep pattern related to lack of sleep control

Implementation: Identify activity and sleep patterns, identify sleep-disturbing factors, establish a routine sleep schedule, set a comfortable position for rest, explain the importance of getting enough sleep during illness, and teach relaxation (non-pharmacological) with Benson relaxation.

Nursing Diagnosis 8: Risk for hypovolemia related to active fluid loss.

Implementation: monitor pulse rate, respiration, and BP; weigh weight; check skin turgor and count*erbalance* fluids every 24 hours; identify signs and symptoms of hypovolemia; monitor the risk of hypovolemia; explain the purpose and monitoring procedures.

DISCUSSION

Found eight nursing diagnosiskjmjmhn in patients Mrs. D, namely ineffective peripheral perfusion related to hyperglycemia, acute pain related to physical injury agents, nutritional deficits related to an inability to absorb nutrients, impaired skin integrity related to damage to peripheral blood vessels, unstable blood glucose levels related to insulin retention, impaired physical mobility associated with pain, disturbed sleep patterns associated with lack of sleep control, and the risk of hypovolemia associated with active fluid loss (DPP PPNI Pokja Team, 2017).

According to Kusuma (2017) i*n* Putri, G. K. (2022), Signs and symptoms in DM sufferers, namely, fast thirst, frequent urination (polyuria), drowsiness, fast hunger, weight loss, unusual fatigue and weakness, blurred vision, healing of old wounds or infections recurrence, and darkening of the skin. Based on Mrs. D, Hunger increases because most of the calories are lost in the urine. Because of this, patients often felt very hungry, causing them to overheat, and it took them a long time to recover from gangrene. This is in line with research conducted by Syahid (2021) *in* Putri, G. K. (2022), which states that type II DM patients experience rapid thirst, frequent urination (polyuria), fatigue, and drastic weight loss. However, appetite remains high, and wound healing time is prolonged.

PERIPHERAL PERFUSION IS INEFFECTIVE

Based on the assessment of subjective data that supports nursing diagnoses **ineffective peripheral perfusion related to hyperglycemia (D. 009).** The major criterion which is a requirement for the appointment of this nursing problem is found in the patient Mrs. D in the form of complaints of tingling in the upper right extremity. The results of the examination showed that the acral felt cold, the skin color was pale, the skin turgor decreased, wound healing seemed to slow down, the muscle strength of the extremities decreased to 4 in the upper extremity, 4 in the left lower extremity, and 3 in the right lower extremity, ABI index 0.76. Based on these data, this diagnosis was appointed as a nursing diagnosis for Ny, D

Ineffective peripheral perfusion problems can be experienced by DM patients. High glucose levels cause obstacles in blood circulation, including to the peripheral area, so patients experience signs that lead to decreased circulation in the peripheral area.

The nursing interventions provided refer to Indonesian nursing intervention standards: **circulation care (I. 02079)**. The activities carried out are checking the pulse, identifying risk factors for circulation disorders, monitoring heat, redness, pain, or swelling in the extremities, placing infusions, taking blood specimens, cleaning the outside area of the wound, *and Buerger Allen Exercise*.

The arterial or peripheral narrowing can be assessed and measured through non-invasive examinations, one of which is by examination *ankle brachial index* (ABI) which functions to detect clinical signs and symptoms of a decrease in peripheral perfusion which can then result in angiopathy and diabetic neuropathy (Anugrah & Sari, 2022).

Therefore one of the nursing interventions is physical exercise *Buerger Allen Exercise* in type 2 diabetes mellitus patients with ineffective peripheral perfusion.

The implementation of nursing given to patients regarding peripheral perfusion nursing problems could have been more effective, namely greeting, introducing oneself, explaining the aims and objectives of building a trusting relationship, and asking about the patient's condition. Identify the patient's understanding of the disease by using the leaflet that has been provided, explaining physical exercises *Buerger Allen Exercise* regarding the patient's condition with the SOP and explaining the ABI examination that will be carried out using the SOP.

Salam & Laili's research, (2020) states that *Buerger Allen Exercise* is given once for 6 days with a duration of 15 minutes for each meeting, showing the result of an increase in lower extremity perfusion, namely the ABI value. The results of this study are certainly in line with the results of research conducted by Amalia (2022), which clearly states that there is a very significant and effective change in improving the peripheral circulation of the lower extremities in diabetes mellitus patients by increasing the ABI value in the patient's limbs.

On day two, on December 29, 2022, WIB obtained subjective data: Mrs. D said the patient said pain in the right extremity on a scale of 5, and tingling was reduced. Then the objective data: the acral feels warm, the skin color is no longer pale, the skin turgor is improving, there are no significant signs of wound healing, the muscle strength of all extremities is 4, and the ABI index is 0.96.*Assessment:* peripheral perfusion diagnosis partially resolved.*Planning*: continue the intervention.

ACUTE PAIN

Based on the results of the assessment of subjective data that supports nursing diagnoses**, acute pain**

associated with an agent of physical harm (D. 0077) characterized by Subjective data: p: the patient says pain because there is a gangrened wound in the right lower extremity, q: pain feels like being stabbed by a sharp object, r: pain feels in the right lower extremity, s: the client's pain scale is 6 (1- 10), t: intermittent pain, with pain when moving the right leg. Objective data: the patient looks grimacing and agitated and seems difficult to sleep because he often pees; pulse = 121 x / minute, BP = 130/90 mmHg, respiration = 21 x / minute; the patient looks diaphoretic.

Then the goal of nursing is **pain level (L. 08066)**with the outcome criteria: complaints of pain decreased on a scale of 4 (1-10), grimacing decreased, the patient was no longer restless (relaxed), difficulty sleeping decreased, pulse frequency improved in the range of 80-120 x / minute, BP improved in the range of TDS 120- 130 mmHg, BP = 80-85 mmHg, breathing patterns improved in the range of 16-20 x/minute, and the patient was no longer diaphoretic.

The nursing interventions provided are **pain management (I. 08238)**, namely by identifying pain (location, characteristics, frequency, intensity, scale), identifying non-verbal pain responses, providing deep breathing relaxation techniques, advising rest, collaborating to continue ketorolac drug therapy 1 gram drip on RL infusion.

Neuropathy and vascular disorders are the main factors contributing to the incidence of injuries; injuries that occur in diabetic patients are related to the influence of nerves in the feet or hands, known as peripheral neuropathy, which can cause patients to feel pain in these ulcers. Hamiddum (2020). The intervention aims to reduce the level of pain felt by the Pokja DPP PPNI Team, 2018). Hamiddum (2020) applied breathing relaxation techniques to manage cases, significantly reducing pain levels to increase comfort and relaxation.

On December 29, 2022, WIB obtained subjective data on day two: Mrs. D said the patient says the pain scale is at number 5 (1-10). Then Objective data: grimacing decreased, the patient is no longer restless, difficulty sleeping decreased, pulse = 117 x / min, BP = 130/90 mmHg, respiration = 19 x / min, the patient is no longer diaphoretic. *Assessment:* acute pain diagnosis partially resolved.*Planning*: continue the intervention.

NUTRITION DEFICIT

Based on the assessment of subjective data that supports nursing diagnoses**, nutritional deficit related to the inability to absorb nutrients (D. 0019)** is characterized by subjective data: the patient said he did not want the porridge, so he ate only a little but complained of hunger. Objective data: BB = 44 kg, BMI = 18.3, pale mucous membranes, hair loss, bowel sounds 17 x / minute.

Then the goal of nursing is **the nutritional status (L. 03030)** with the outcome criteria: The food pattern that has been measured is spent**,** BB has improved to 45-46 kg, BMI has improved to > 18.4, mucous membranes are no longer pale, hair is no longer falling out, noises improve in the range of 3-16 x/minute.

The nursing interventions provided are **nutrition management (I. 03119)**, namely by identifying food allergies/tolerances, asking about food intake, weighing weight, doing oral hygiene, giving food at the appropriate temperature, giving food according to nutritional therapy (DM diet), education, giving antacids, consulting nutrition.

Nursing actions are given to Mrs. D according to the management of type 2 diabetes mellitus according to Damayanti (2015)*in* Renaldi, H.A., et al., (2022). namely education (education), nutritional therapy (diet), monitoring, and pharmacological therapy. Education is

education or training regarding knowledge and skills in managing diabetes mellitus given to each patient with diabetes mellitus. Providing education includes basic knowledge about diabetes mellitus, meal planning, physical activity, and foot care. Furthermore, nutritional or diet therapy can be carried out with the 3J principle, namely the right amount, schedule, and type.

The implementation of nursing care actions carried out is to carry out a diet therapy program for clients, which is carried out for two days, accompanied by daily GDS measurements. Ignorance of diet is one of the efforts to achieve treatment goals in type 2 diabetes mellitus patients, so the health education is needed in type 2 DM patients. Renaldi, H.A., et al., 2022).

According to Damayanti (2015)*in* Renaldi, H. A., et al., (2022 The purpose of meeting the nutritional needs of clients with diabetes mellitus is to maintain or achieve body weight within normal limits or ± 10% of ideal body weight, maintain blood glucose and lipid levels close to normal, prevent acute and chronic complications and improve quality of life.

Evaluation on day two on December 29, 2022, WIB obtained subjective data: Mrs. D said the food that was measured out. Then objective data, BB = 44.5 kg, BMI = 18.5**,** mucous membranes are no longer pale, hair does not fall out anymore, and bowel sounds = 13 x/minute.*Assessment:* partially resolved nutritional deficit diagnosis.*Planning*: continue the intervention.

SKIN INTEGRITY DISORDERS

Based on the assessment of subjective data that supports nursing diagnoses**, impaired skin integrity related to peripheral vascular damage (D. 0129)** characterized by Subjective data: The patient says pain in the right lower extremity with a scale of 6 (1-10). Objective data: there is a wound on the right leg with a length of 5 cm and a width of 1 cm. There is damage to the skin layer on the right lower extremity.

Then the goal of nursing is **skin and tissue integrity (L. 14125)**with the outcome criteria: pain complaints decreased to a scale of 4, decreased tissue damage, decreased skin layer damage.

The nursing interventions provided are: **wound care (I. 14564)**, namely by wound care (cleaning the wound with NaCl, cutting necrotic tissue, applying wound dressings according to the type of wound, maintaining sterile technique when treating wounds, explaining signs and symptoms of infection, giving antibiotics.

Diabetic neuropathy is nerve damage with a focal or diffuse nature that occurs due to exposure to chronic hyperglycemia, which has signs and symptoms of tingling, pain, numbness, and numbness (Kengne, 2015) Anugrah and Sari, 2022). Neuropathy complications can develop into diabetic ulcers. Diabetic ulcers are open wounds on the skin's surface and are accompanied by local tissue death. Decline*sensibility*is one of the leading causes of ulcers. (Sulistiari, 2013*in* Anugrah and Sari, 2022).

Wound care is caring for wounds and applying bandages to prevent cross-infection (entering through the wound) and speed up the wound-healing process (Delmafildasari, 2013).*in* Hidayah, Astuti, & Kartika, 2019). Therefore the most essential nursing action is wound care (Pokja DPP PPNI Team, 2019)

Wound care (cleaning the wound with NaCl, cutting necrotic tissue, applying wound dressings according to the type of wound, maintaining sterile technique when treating wounds, explaining signs and symptoms of infection, and giving antibiotics (Pokja DPP PPNI Team, 2019)

Hidayah, Astuti, & Kartika (2019). implementing one of the implementations that can reduce the risk of infection, namely wound care with 0.9% NaCl. Normal saline (NS) fluid or 0.9% sodium chloride (0.9% NaCl) is a liquid that is recommended as a wound cleanser because

normal saline fluid has the same composition as blood plasma so it is safe for the body (Arsianty, 2014).

As Kristiyaningrum & Suwarto (2013)*in* Hidayah, Astuti, & Kartika, (2019) opinion, the solution that is often used to treat diabetes mellitus wounds is 0.9% NaCl. Because 0.9% NaCl solution is also an adequate physiological fluid for wound care because it matches the body's salt content. The function of 0.9% NaCl for wound care can also moisturize the wound bed to keep it moist.

Evaluation on day two on December 29, 2022, WIB obtained subjective data: Mrs. D said the pain scale is 5. Then objective data: tissue damage has decreased with a wound length of 4.8 cm and a wound width of 1 cm, and skin layer damage has not decreased**.** *Assessment:* diagnosis of impaired skin integrity is partially resolved.*Planning*: continue the intervention.

INSTABILITY OF BLOOD GLUCOSE LEVELS

Based on the results of the assessment of subjective data that supports nursing diagnoses**, unstable blood glucose levels related to insulin retention (D. 0027)** characterized by subjective data: patients complain of dizziness, patients complain of lethargy, patients complain of hunger, patients say they often feel thirsty in the middle of the night. Objective data: dry mouth, amount of urine = 3000 cc, fasting blood sugar level = 378 mg/dL.

Then the goal of nursing is **Blood Glucose Stability (L. 03022)**with the outcome criteria: decreased dizziness, decreased lethargy, decreased hunger complaints, decreased thirst complaints, no longer dry mouth, decreased urine output to 200-2500 cc/day, decreased blood sugar levels in the range of 125-280 mg/dL.

The nursing interventions provided are **management of hyperglycemia (I. 03115)**, namely by identifying possible causes of hyperglycemia, checking GDS, monitoring signs and symptoms of hyperglycemia, monitoring *intake* and *output* fluids, anticipating with other nurses if there are signs of hyperglycemia symptoms again, recommend a DM diet, give insulin Apidra 3 x 10 units.

Diabetes is a disturbance in metabolism marked by hyperglycemia with abnormality metabolism of carbohydrate, lipid, and protein consequences, declined secretion of insulin or declined insulin sensitivity, or both of which raises complications chronic, microvascular, macrovascular, and neuropathy. (Tjokroprawiro, 2015).

Based on this, there is no gap between real cases and the theory of diabetes mellitus and nutritional theory. Theoretically, the signs and symptoms of diabetes are blood sugar levels that exceed normal limits so that sometimes clients react weakly and dizzy. (Renaldi, H.A., et al., 2022).

Step One Monitor fluid intake and output. The importance of monitoring nutrition and performance to determine the type and amount of food eaten daily as well as nutritional needs Nutrition is a specific way to regulate the amount, type, and intake of food to maintain health, nutritional status, and the healing process to prevent or support.

This is in line with the results of research by Susanti and Bistara (2018)*in* (Hasanuddin, F. (2020) that diet plays an important role, especially in DM patients who cannot regulate their diet properly based on 3J; this causes an increase in blood sugar levels in sufferers. Therefore, food intake for DM sufferers needs to be considered.

The second intervention is to control blood sugar. In DM sufferers, changes in blood glucose levels can occur anytime and dictate the patient's planned calorie needs.(Tarwoto, Wartona, taufiq, & Muliati, 2012*in* Hasanuddin, F., 2020).

The third intervention is counseling on diet programs. Based on the research of Susanti and Bistara (2018), if you

do a diet program using the 3J principles (schedule, type, and amount) regularly, this causes blood glucose to be within the normal range (Hasanuddin, F. (2020).

On day two, on December 29, 2022, WIB obtained subjective data: Mrs. D said the patient said he still had dizziness, and lethargy, still said he was often hungry, and complaints of thirst had decreased. Then objective data: the mouth is not dry, amount of urine 525 cc/ 5 hours, GDS = 310 mg/dL. *Assessment:* diagnosis of unstable blood glucose levels is partially resolved.*Planning*: continue the intervention.

PHYSICAL MOBILITY IMPROVEMENTS

Based on the assessment of subjective data that supports nursing diagnoses**, Impaired physical mobility related to pain (D. 0027)** is characterized by subjective data: the patient complains of pain when moving the right leg. Objective data: limb muscle strength decreased to 4 upper extremities, 4 lower left extremities, and 3 lower right extremities, limited movement in the right lower extremity, and the patient looked physically weak.

Then the goal of nursing is **Physical Mobility (L. 05042)**with the outcome criteria: Decreased pain, increased limb movement, increased limb muscle strength to 5 in the upper extremity, 5 in the lower left extremity, 4 in the right lower extremity, decreased limited movement, decreased physical weakness.

The nursing interventions provided are **Ambulation Support (I. 06171)** namely by asking about pain / other physical complaints, seeing the general condition of the patient whether there is a decrease in the condition / not, inviting the family to help with movement, especially the right limb, recommending ambulation such as sitting, walking, practicing ROM.

Diabetes mellitus is a group of metabolic disorders characterized by increased blood sugar, which can lead to complications of neuropathy. To avoid stiffness due to neurological or physical injuries, ROM (Range Of Motion) exercises are repeatedly performed on the ankles of patients with diabetes mellitus and muscle weakness.

Following RAMLI Research, Y. R. (2020) application of passive Range Of Motion (ROM) joint movement in older adults with diabetes mellitus with nursing problems with physical mobility disorders at UPT Panti Tresna Wardha Hargo Dedali Surabaya with the results obtained after implementing Range Of Motion exercises (ROM) for three days inpatient one and patient two limb muscle strength in both patients increased considerably. Namely, Mrs. D, on a scale of 3 (moderate), can move against gravity, and 4 (good) can move with maximum load. While at Mrs. I on the left lower extremity, on a scale of 3 (moderate) able to move against gravity, to 4 (good) able to move with maximum load. This study concludes that there is an increase in passive ROM in patients with diabetes mellitus with nursing problems and impaired physical mobility.

On day two, on December 29, 2022, WIB obtained subjective data: Mrs. D said pain decreased to a scale of 5 (1-10). Then objective data: it can be seen that there is an increase in limb movement and muscle strength of all 4 limbs, the patient's limited movement decreases, and weakness decreases. *Assessment:* partially resolved the diagnosis of impaired physical mobility.*Planning*: continue the intervention.

SLEEP DISORDER

Based on the results of the assessment of subjective data that supports nursing diagnoses **of sleep pattern disturbance related to lack of sleep control (D. 0055)** characterized by subjective data: Patients complain of difficulty sleeping because of gangrene wound pain and frequent urination, patients complain of dissatisfied sleep, patients complain of insufficient rest even though they are

lying down. Objective data: visible patient activity assisted by the family.

Then the goal of nursing is **Sleep patterns (L. 05045)**with the outcome criteria: decreased complaints of difficulty sleeping, decreased complaints of sleep dissatisfaction, decreased complaints of insufficient rest, and increased activity ability.

The nursing interventions provided are: **Sleep support (I. 09265)**, namely by identifying activity and sleep patterns, identifying sleep-disturbing factors, setting a routine sleep schedule, setting a comfortable position for resting, explaining the importance of getting enough sleep during illness, teaching relaxation (non-pharmacological) with Benson relaxation.

Diabetes is characterized by typical symptoms, including polyuria and frequent urination at night; patients often have to go to the toilet to urinate, causing patients to experience sleep disturbances. Inadequate quality and quantity of sleep in people with diabetes mellitus cause reduced insulin sensitivity, which causes an increase in blood sugar. (WARDANI, T. K. , 2021).

One of the proper relaxation methods for overcoming insomnia is the Benson relaxation technique because it incorporates elements of the patient's beliefs so that it creates a stronger relaxation response because it aims to calm mental strength so that it helps the patient's healing process. with research showing that the use of Benson relaxation can reduce sleep disturbances in diabetic patients. (WARDANI, T. K. , 2021).

Evaluation on day two on December 29, 2022, WIB obtained subjective data: Mrs. D said the patient says it is difficult to sleep occasionally, the patient says he is a little satisfied (better), still complains of insufficient rest, and occasional activities are assisted by the family. *Assessment:* partially resolved sleep disorder diagnosis.*Planning*: continue the intervention.

HYPOVOLEMIA RISK

Based on the results of the assessment of subjective data that supports nursing diagnoses **risk of hypovolemia evidenced by active fluid loss (D. 0034)** are subjective data: Patients say they often feel thirsty in the middle of the night. Objective data: pulse = 121 x/min, blood pressure 130/90 mmHg, respiratory rate 21x/min, pale mucous membranes, Hb 8.6 mg/dL, Ht 24.8 g/dL, BW = 44 kg.

Then the goal of nursing is **the fluid status (L. 03028)** with the outcome criteria: decreased thirst complaints, increased skin turgor, pulse rate improved in the range of 80-120 x / minute, BP improved in the range of 120-130 mmHg TDS, BP = 80-85 mmHg,, improved breathing pattern in the range of 16-20 x/minute, mucous membranes improve, Hb levels improve between 10-12 g/dL, HT levels improve between 35-45 g/dL, body weight improves to 44.5-46 kg.

The nursing interventions provided are: **fluid monitoring (I. 03121)** namely monitoring pulse rate, respiration, BP, weighing weight, checking skin turgor, count*erbalance* fluids every 24 hours; identifying signs and symptoms of hypovolemia, monitoring the risk of hypovolemia, explaining the purpose and monitoring procedures.

Regardless of the type of dehydration (isosmotic, hypoosmotic, or hyperosmotic), isotonic fluids should be the first fluid administered to promote effective perfusion. In this case, Ringer's lactate, Ringer's acetate, and 0.9% NaCl are often used (Prabowo, E., 2012)

Intravenous (IV) therapy is used to provide fluids when the patient is unable to swallow, is unconscious, dehydrated, or in shock, provides the salt needed to maintain electrolyte balance or glucose needed for metabolism, and administers drugs. (Perry & Potter, 2006*in* BHAYANGKARA, K. R., & HASTUTI, A. 2020).

Evaluation on day two on December 29, 2022, WIB obtained subjective data: Mrs. D said thirsty groans decreased. Then Objective data:, skin turgor improved, pulse = 117 x / min, BP = 130/90 mmHg, RR = 19 x / min, mucous membranes improved, Hb = 9.1 g/dL, Ht = 33 g/dL g/dL, BW = 44.5 kg.*Assessment:* the risk of hypovolaemia has been resolved.*Planning*: stop the intervention.

CONCLUSION

The author has conducted a study on Mrs. D, which was carried out for 2 x 7 hours; the steps used in the assessment were the case study method with interviews, observation, carrying out physical examinations, and documenting the results. Evaluation after carrying out nursing actions in accordance with the nursing action plan, an evaluation is carried out to find out and monitor progress and to assess the level of success of the nursing actions that have been carried out on Mrs. D. The results of the evaluation carried out for two days ineffective peripheral perfusion related to partially resolved hyperglycemia, acute pain related to partial physical injury agents, nutritional deficit related to an inability to absorb nutrients partially resolved, impaired skin integrity related to peripheral vascular damage partially resolved, unstable blood glucose levels associated with insulin retention partially resolved, impaired physical mobility associated with pain partially resolved, disturbed sleep patterns associated with lack of sleep control partially resolved, and risk of hypovolemia associated with fluid loss actively resolved. So good and appropriate nursing care starting from assessment to evaluation needs to be done properly, so that the patient's recovery rate increases

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