Journal :Journal of Physical Activity and Health
Volumes :2 | Number : 3 | Page. 167-173
Published : 12/21/2024
ISSN: 3032-6257

NURSING CARE FOR DIABETIC ULCERS IN Mr. P WITH INTEGUMENTARY SYSTEM DISORDERS OF TISSUE INTEGRITY DAMAGE IN THE ORCHID ROOM OF THE ADVENTIST HOSPITAL MEDAN IN 2024

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Abstract.

Nursing care for patients with diabetic ulcers aims to accelerate wound healing, prevent infections, and improve patients' quality of life. This report discusses the nursing care provided to Mr. P, a patient with a diabetic ulcer who was treated in the Anggrek Ward at Advent Hospital Medan in 2024. The nursing care approach was conducted using the nursing process method, which includes assessment, nursing diagnosis, planning, implementation, and evaluation. The intervention results showed that the application of modern wound care, optimal blood glucose management, and education on self-care could help accelerate wound healing and prevent further complications. The conclusion of this case study emphasizes the importance of a holistic approach in managing diabetic ulcers to improve patient care outcomes.

Keywords: Diabetic ulcer, nursing care, integumentary system, impaired tissue integrity, wound healing.

I. INTRODUCTION

The increase in per capita income and changes in lifestyle, especially in big cities, have caused an increase in the prevalence of degenerative diseases, such as coronary heart disease (CHD), hypertension, hyperlipidemia, diabetes mellitus and others (Suyono, 2009). With the increasing welfare of the Indonesian people, the incidence of various degenerative diseases has also increased (Waspadji, 2009). The increasing prevalence of diabetes mellitus in several developing countries, due to the increasing prosperity in the countries concerned, has recently been highlighted (Suyono, 2009).

Diabetes mellitus (DM) is a chronic condition characterized by increased blood glucose concentrations (Bilous & Donelly, 2015). Lower extremity complications in people with diabetes mellitus have become an increasingly significant public health problem in both developed and developing countries. These complications, starting with neuropathy and subsequent diabetic foot ulcers often lead to infection and amputation of the lower extremities even in the absence of critical leg ischemia (Wu, et al., 2007). Prolonged hyperglycemia results in changes in the structure of peripheral blood vessels (angiopathy) and causes problems with the nervous system (neuropathy). The presence of angiopathy and neuropathy problems in DM patients is also exacerbated by a decrease in the immune system so that if a diabetic patient experiences even a small wound, it will very easily develop into an ulcer and even experience tissue necrosis which ends in amputation if not treated properly (Tarwoto, et al., 2012).

Diabetes mellitus (DM) is a health problem that needs to be addressed carefully. The prevalence of DM increases every year, especially in high-risk groups. Uncontrolled DM can cause

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metabolic complications or long-term vascular complications, namely microangiopathy and macroangiopathy. DM sufferers are also susceptible to foot wound infections which can then develop into gangrene, thus increasing cases of amputation (Kartika, 2017).

According to the World Health Organization (WHO), diabetes mellitus caused 1.5 million deaths in 2012. In 2014, 422 million people worldwide suffered from diabetes - a prevalence of 8.5% among the adult population. The prevalence of diabetes mellitus has been increasing steadily over the past 3 decades and is growing most rapidly in low- and middle-income countries. Associated risk factors such as overweight or obesity are increasing. Diabetes mellitus is an important cause of blindness, kidney failure, lower limb amputations and other long-term consequences that significantly impact quality of life (WHO, 2016)

In Indonesia, the Basic Health Research (Riskesdas) in 2007 and 2013 conducted blood sugar tests to obtain data on the proportion of DM sufferers in Indonesia in the population aged 15 years and over with the results of the proportion of diabetes mellitus and IGT in urban areas in 2013 being higher. When compared between urban and rural populations, it turns out that the proportion in rural areas is no longer lower than in urban areas. The proportion of diabetes mellitus in Indonesia in 2013 was 6.9%, IGT (Impaired Glucose Tolerance) was 29.9% and GDP (Fasting Blood Sugar) was impaired by 36.6%. If the estimated number of Indonesians aged 15 years and over in 2013 was 176,689,336 people, then it can be estimated that the absolute number of diabetes mellitus sufferers is around 12 million, IGT around 52 million, and impaired GDP around 64 million. The percentage of diabetes mellitus complications at Dr. Soetomo General Hospital. Cipto Mangunkusumo Hospital Jakarta (RSCM) in 2011 showed that the most common complications were neuropathy experienced by 54% and foot ulcers by 8.7% (Infodatin, 2014).

II. LITERATURE REVIEW

According to the American Diabetes Association (ADA) 2010, Diabetes Mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormalities in insulin secretion, insulin function or both (Ndraha, 2014). Diabetes occurs due to problems in the production of insulin hormone by the pancreas, either the hormone is not produced in the correct amount, or the body cannot use the correct insulin hormone (Manupang, 2018)

Diabetes mellitus is a chronic, progressive disease characterized by the body's inability to metabolize carbohydrates, fats, and proteins. The initial occurrence of hyperglycemia in diabetes mellitus patients is associated with long-term damage, diffusion, and organ failure, especially the eyes, kidneys, nerves, and blood vessels (Damayanti S, 2017).

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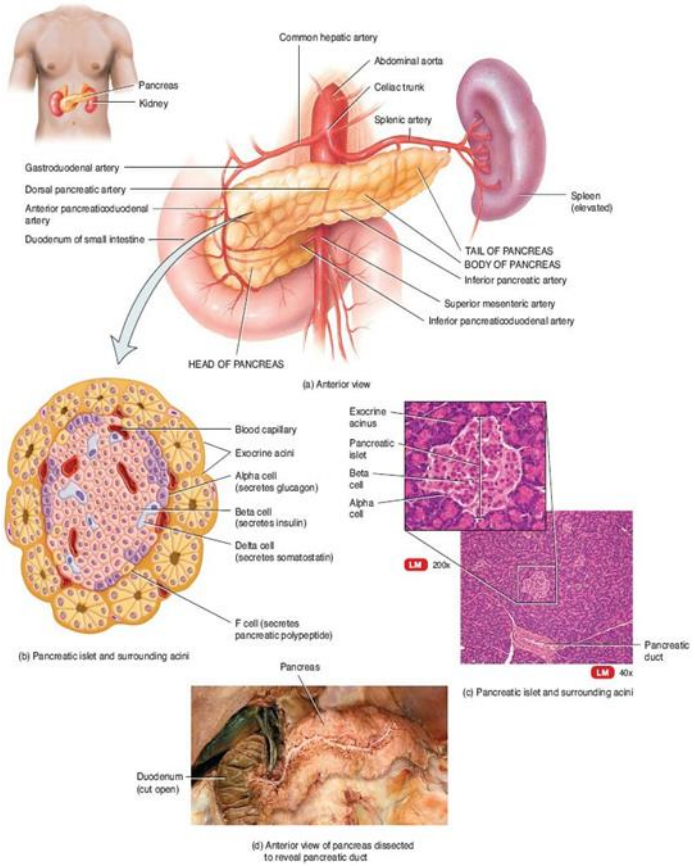
Anatomical Drawings



Type 1 DM or formerly known as Insulin Dependent Diabetes Mellitus (IDDM), occurs due to damage to pancreatic β cells (autoimmune reaction). Pancreatic β cells are the only body cells that produce insulin which functions to regulate glucose levels in the body. When damage to pancreatic β cells has reached 80-90%, symptoms of DM begin to appear. This cell destruction occurs more quickly in children than in adults. Most sufferers of type 1 DM are mostly due to autoimmune processes and a small number are non-autoimmune. Type 1 DM with an unknown cause is also called type 1 idiopathic, in them insulinopenia is found without any immune markers and is very easy to experience ketoacidosis. Type 1 DM mostly (75% of cases) occurs before the age of 30 years and this type of DM is estimated to occur around 5-10% of all cases of DM (Kardika, et al., 2013).

Type 2 DM is 90% of DM cases which were previously known as non insulin dependent Diabetes Mellitus (NIDDM). This form of DM varies from dominant insulin resistance, relative insulin deficiency to insulin secretion defects. In this diabetes, there is a decrease in the ability of insulin to work in peripheral tissues (insulin resistance) and β cell dysfunction. As a result, the pancreas is unable to produce enough insulin to compensate for insulin resistance. Both of these things cause relative insulin deficiency. Obesity is often associated with this condition. Type 2 DM generally occurs at age > 40 years. In type 2 DM, there is a disruption in glucose binding by its receptors but insulin production is still within normal limits so that sufferers are not dependent on insulin administration. However, in the type 2 diabetes mellitus group, microvascular and macrovascular complications are often found (Kardika, et al., 2013)

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IV. RESEARCH RESULTS AND DISCUSSION

After the author implemented Nursing Care for Mr. P with Integumentary System Disorders, Damage to Tissue Integrity in the Orchid Room at Medan Adventist Hospital from March 6 to 8, 2024, the author will discuss the gaps and difficulties that exist in the theoretical review and case review.

In discussing the gap, the author uses the stages of assessment, diagnosis, intervention, implementation and evaluation.

Assessment Phase

If we review the theoretical basis in chapter II experienced by Mr. P in the case of Integumentary System Disorders, Damage to Tissue Integrity in the Orchid Room, Medan Adventist Hospital, there are differences, including:

1. Assessments obtained in theory but not in casesthat is :
2. Assessments obtained in cases but not in theorythat is :
3. The supporting examinations in this case are:such as: Diagnostic (laboratory) examinations that are not included in the theory.

Nursing Diagnosis

Nursing diagnosis is the most important thing in the care process where through improving the nursing diagnosis the patient can be identified which ultimately facilitates planning for the problems faced.

Planning Stage

At the nursing planning stage, there is not much difference between theoretical review and case review because all planning is independent planning capable of collaboration so that at this stage no gaps were found, and the author also did not find any difficulties in compiling an action plan.

Implementation Stage

In carrying out nursing care actions, the author focuses on the previously established nursing plan and implements it according to the client's current needs.This :

In this implementation, the things that can be done are:

1. Observation of vital signs
2. Maintaining skin integrity
3. Orchid physical mobility of patients
4. Carry out personal hygiene for patients
5. Provide diet to clients according to client treatment

Evaluation Stage

In the evaluation stage, patient problems can be addressed and some can be resolved.

The problems that were resolved were:

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1. Damage to skin integrity related to diabetes mellitus is characterized by the presence of wounds suffered by the patient, namely ulcers on the back of the left foot.
2. Acute pain related to physiological injury agents is characterized by a wound on the left instep with a pain scale of 5.
3. The risk of infection is related to damage to skin integrity, indicated by wounds on the back of the foot.

V. CONCLUSIONS AND RECOMMENDATIONS

1.1 Conclusion

After conducting a case study on Mr. P with integumentary system disorders and tissue integrity damage in the Orchid Room of the Medan Adventist Hospital from March 6-8, 2024, several things can be concluded, including:

1 In assessing clients with damage to the integrity of pressure tissue or diabetic ulcers, we must be careful in collecting data, namely by knowing the normal main complaints, past and present health history, physical examination and the client's daily life patterns.

2 The diagnosis that appears is determined from the client's condition and the pathophysiology of the client's disease.

3 To determine priorities, nurses need to have knowledge about the client's condition in the field, by prioritizing urgent needs/conditions to be resolved/addressed which may endanger the client.

4 In the action plan, not everything is implemented ideally, but is adjusted to the situation, conditions and room facilities.

5 General evaluation of the client after nursing actions, the problem is resolved and the problem is partially resolved. This occurs due to time constraints.

6 The success of the objectives can be achieved in the nursing care given to Mr. P if it involves the roles of the client, family and other health teams.

5.2 Suggestions

5.2.1 For Clients and Families

Healing of diabetic foot ulcers requires a long time and maintained glycemic control, so it is necessary for clients and families to be aware of being obedient in undergoing the treatment process, both in carrying out proper wound care using existing facilities or health workers, and also the right diet program for diabetes mellitus sufferers to achieve optimal health levels.

5.2.2 For Hospital Nurses (Practical)

Wound care actions need to be carried out properly and correctly, according to the principles of wound care in general so that the wound can undergo a progressive healing process, and also a proper assessment of the wound condition can influence considerations in selecting a dressing for the wound based on the principle of moisture balance so that the wound heals quickly.

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5.2.3 For Further Writers (Theoretical)

For the next author, the assessment is carried out comprehensively by conducting a review of the current history and past history to assess how bad the client's condition is. The selection of a diagnosis of tissue integrity damage needs to be considered with skin integrity damage because it has the same related factors. Nursing interventions are selected according to theory and are sorted according to the client's wound condition to achieve the predetermined nursing success.

5.2.4 For Hospitals

It is expected that hospitals can provide diabetic foot ulcer wound care services by considering modern wound care techniques (modern dressing), by procuring wound care dressing materials that are appropriate to the conditions of various types of wounds with the principle of moisture balance so that accelerated wound healing can be achieved.

5.2.5 For Institutions

The lack of references or literature that specifically discusses diabetic foot ulcers in the reading room makes the author add literature from outside. It is hoped that the procurement of additional scientific books specifically discussing diabetic foot ulcers, both theoretical concepts and nursing care, can be implemented. So that it makes it easier for the author to work on this final assignment report.

BIBLIOGRAPHY

Arisanty, IP, 2014. Wound Care Management: Basic Concepts. Jakarta: EGC. Atkin, L., 2016. Understanding Metods of Wound Debridement. British Journal of
Nursing, XXIII(12), pp. 12-16.
Bates-Jansen, B., 2009. The Bates-Jensen Wound Assessment Tool (BWAT): Development of a Pictorial Guide for Training Nurses. Wound Care Canada, VII(2), pp. 33-38.
Bilous, R. & Donelly, R., 2015. Diabetes Handbook 4th Edition. Jakarta: PT. Bumi Aksara Group.
Chadwick, P., Edmonds, M., McCardle, J. & Armstrong, D., 2013. Best Practice Guidelines: Wound Management In Diabetic Foot Ulcers. London: Wounds International.
Deutschman, C.S., Singer, M. & Seymour, C.W., 2016. The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). Jama, CCCXV(8), pp. 801-810.
Doenges, ME, 2015. Nursing Diagnosis Manual: Nursing Care Plans, Interventions, and Documentation. 3 editors. Jakarta: EGC.
Ekaputra, E., 2013. Evolution of Wound Management. Jakarta: CV. Trans Info Media. Herdman, TH & Kamitsuru, S., 2016. Nursing Diagnosis: Definition &
Classification 2015-2017. Jakarta: EGC.
Hidayat, AAA, 2009. Nursing Research Methods and Data Analysis Techniques.
English: ...
Ibrahim, A. et al., 2017. IDF Clinical Practice Recommendations on the Diabetic Foot – 2017. International Diabetes Federation, pp. 1-70.

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Kardika, IBW, Herawati, S. & Yasa, IWPS, 2013. Preanalytics and Interpretation of Blood Glucose for the Diagnosis of Diabetes Mellitus. Department of Clinical Pathology, Faculty of Medicine, Udayana University, pp. 1-13.

Kartika, RW, 2015. Chronic Wound Care with Modern Dressing. Department of Cardiopulmonary and Vascular Surgery Wound Care/Diabetic Care, pp. 546-550.

Kartika, RW, 2017. Management of Diabetic Foot Gangrene. Continuing Medical Education, pp. 18-22.

LeMOne, P., Burke, KM & Bauldoff, G., 2016. Textbook of Medical Surgical Nursing, Ed. 5, Vol. 2. Jakarta: EGC.

Lipsky, BA et al., 2012. 2012 Infectious Diseases Society of America Clinical Practice Guideline for the Diagnosis and Treatment of Diabetic Foot Infections. IDSA Guidelines, Issue 54, pp. 132-173.

Maryunani, A., 2015. The most complete and up-to-date modern wound care. Jakarta: In Media.

Morison, MJ, 2015. Wound Management. Jakarta: EGC.

Muhartono & Sari, IN, 2017. Case Report of Right Diabetic Foot Ulcer with Type 2 Diabetes Mellitus. Agromed Unila, IV(1), pp. 2-7.

Nather, A., Wei, MC, Anwa, A. & Masturah, S., 2016. Surgical Debridement for Diabetic Foot Wounds, Singapore: Remedy Publications.

Ndraha, S., 2014. Type 2 Diabetes Mellitus and Current Management. Department of Internal Medicine, Faculty of Medicine, Krida Wacana University, Jakarta, August.pp. 9-16.

Njoto, EN, 2014. Blood Pressure Target in Diabetes Mellitus. Eagle Head Medical Center Surabaya, Volume 41, pp. 864-866. Swarjana, IK 2016. Health Statistics. Andi Publisher, Yogyakarta