

Giving honey as a complementary therapy in the prevention and treatment of Diabetes mellitus wounds in RT 9 RW 10 Kebayoran Lama, South Jakarta

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ABSTRACT

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One alternative treatment for diabetic wounds is using honey therapy. Honey has sufficient water and moisture content so that it does not support bacteria to grow and multiply.

A survey conducted in the Kebayoran Lama sub-district area, there are still DM patients who experience diabetic wounds and undergo treatment using water and betadine, 0.9% NaCl solution, pure honey, and Nebacetin powder. This program also supports This effort has succeeded in increasing the knowledge and skills of the community in carrying out DM wound care.

The number of people who participated in the study was 70 people in the RT 9 area. Data collection used a blood sugar observation sheet before and after DM wound care. From these results it can be concluded that all residents of RT 9 can carry out DM wound care independently at home using topical pure honey.

1. INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease whose prevalence is increasing worldwide. According to data from the International Diabetes Federation (IDF), in 2021, it is estimated that there are around 537 million adults living with diabetes worldwide, and this figure is predicted to increase to 643 million by 2030 (IDF, 2021)¹. One of the serious complications often experienced by DM sufferers is wounds, especially in the lower extremities, which can lead to infection, amputation, and even death if not treated properly. Therefore, wound care in DM sufferers is very important to prevent further complications and improve the patient's quality of life². People with DM have a higher risk of developing wounds due to several factors, including diabetic

neuropathy which can reduce sensation in the feet, as well as impaired blood circulation which can slow the healing process. According to a study by Galkina et al. (2020), around 15% of people with diabetes will experience foot wounds, and of that number, 6% will require amputation. This data shows how urgent the need for attention and proper treatment of wounds in people with DM is³.

Wound healing in people with DM is influenced by various factors that can be divided into systemic and local factors. Systemic factors include poor blood glucose control, which is one of the main causes of delayed wound healing. Research by Huo et al. (2019) shows that high blood glucose levels can interfere with the healing process by affecting cells involved in tissue

regeneration, such as fibroblasts and macrophages. Therefore, good blood glucose management is essential to improve the prognosis of wound healing⁴.

Local factors also play an important role in wound healing. For example, the presence of infection in the wound can slow the healing process and increase the risk of complications. According to data from the American Diabetes Association (ADA), about 60% of wounds in people with DM are infected, which can worsen the condition and require more aggressive medical intervention (ADA, 2022)⁵. In addition, moisture and poor blood circulation in the wound area can also slow healing. Therefore, it is important to conduct a thorough evaluation of local factors that can affect wound healing⁶. Poor skin conditions, such as dermatitis or fungal infections, can also affect wound healing. People with diabetes often experience changes in the skin that make them more susceptible to wounds. A study by Kahn et al. (2021) showed that good skin care, including maintaining cleanliness and moisture, can help prevent new wounds and accelerate the healing of existing wounds. Therefore, education about skin care should be an integral part of diabetes management⁷.

Wound care for people with DM requires a comprehensive and multidisciplinary approach. One of the first steps in wound care is to conduct a thorough assessment of the wound and the patient's general health. This includes an evaluation of blood glucose control, the presence of infection, and local factors that may affect healing. According to the American College of Foot and Ankle Surgeons (ACFAS), a proper assessment can help determine the most appropriate treatment plan (ACFAS, 2021)⁸. Patient and family education is also very important in wound care. Teaching patients about the importance of self-care, such as maintaining foot hygiene, checking feet regularly, and

recognizing signs of infection, can help prevent new wounds from occurring, both through prevention and treatment with honey. A study by McGowan et al. (2021) showed that good patient education can reduce the incidence of diabetic foot wounds by up to 50%⁹. Honey can be useful for treating diabetic wounds because it has antibacterial, anti-inflammatory properties, and accelerates wound healing. Honey can also help remove dead tissue, stimulate new skin formation, and prevent infection¹⁰.

Nurses as one of the health workers also play a role in achieving health. One of the roles of nurses according to the Health Sciences Consortium in 1989 is as an Educator. Nurses are tasked with providing health education to clients in this case individuals, families, and communities in health, nurses play a role in providing education about Wound care for DM patients using honey techniques.¹¹

2. METODE

The design of this community service activity discusses the problem of treating DM wounds using honey in patients with Diabetes mellitus with a focus on the treatment and prevention of diabetes mellitus wounds through awareness, training, and monitoring. The main target of this activity is DM sufferers in RT 9 RW 10 Kebayoran Lama- Jakarta. DM sufferers often experience diabetic ulcers due to errors in wound care and low knowledge about wound care.

This activity was carried out in RT 9 RW 10 Kebayoran Lama, Jakarta. This community service program utilizes the concept of prevention and treatment, emphasizing education, intervention, and sustainable behavioral change to overcome DM wounds.

Implementation Stages

The implementation of this community service program involves three

main stages: preparation, activities, and evaluation. During the preparation stage, the team conducted observations and discussions to identify issues of DM wound care among the community such as wound care management, prevention of DM wounds, treatment of DM wounds, wound care techniques using pure honey. Based on these findings, a detailed program plan was developed, emphasizing strategies such as blood sugar monitoring, wound care planning, wound prevention using pure honey.

At the activity stage, various interventions were carried out. Awareness-building efforts include health education campaigns to provide education to community groups. facilitators guide group discussions to help evaluate and improve wound care behavior. Training sessions equip the community with skills to care for DM wounds using the latest methods, one of which is pure honey. Practical demonstrations, such as preparing a DM wound treatment program using pure honey techniques. In addition, the community applies these concepts through direct practice, including preparing sterile gauze, pure honey, standard GV (change bandage) equipment.

Finally, the evaluation phase focuses on assessing the impact of the treatment. Wound care provided to the community is evaluated using blood sugar level measurements before, and after the health education program. Evaluation also ensures behavioral implementation, as the community demonstrates independent application of the concepts learned during evaluation and follow-up monitoring. This wound care program uses participatory and experiential learning methods to ensure sustainable change.

3. RESULTS AND DISCUSSION

Diabetes Mellitus (DM) is one of the chronic diseases that is increasingly prevalent throughout the world. According to data from the World Health Organization

(WHO), the number of diabetes sufferers is estimated to reach more than 400 million people in 2019, and this number is expected to continue to increase.¹⁵ One of the serious complications often experienced by diabetes patients is wound problems, especially wounds on the feet, which can lead to amputation if not treated properly. Therefore, wound care in diabetes mellitus patients is very important to prevent further complications and improve the patient's quality of life¹.

Stages of Community Service Program Implementation

The community service program is implemented through several stages, namely socialization, education and training, and evaluation. All of these stages aim to improve community knowledge, attitudes, and skills related to DM wound care using pure honey. The following is a detailed description of each stage ¹².

Program Socialization

The program socialization stage was held on Wednesday, May 8, 2025 at 08.00-12.00 WIB. This session was attended by the heads of RT, RW, and the community of RT 9. At this stage, the implementing team consisting of the head of the implementation and members discussed the structure of the planned health education program. Important aspects discussed include the preparation of health education materials, delivery methods, and evaluation tools, such as pre-tests and post-tests.

Education and Training

Education and training were held on Wednesday, May 8, 2025 at 08.00-12.00. A total of 70 participants participated in Health Education related to wound care. The session began with registration, participants signed the attendance list, free blood pressure and blood sugar checks.

Before the official training began, participants were given a pre-test consisting of 30 questions divided into three parts,

namely knowledge, attitude, and practice. This test aims to assess participants' initial understanding.

This session also includes a demonstration on wound care where participants are taught how to measure blood sugar first before health education and how to treat wound care using pure honey.

To enhance the experience during this health education using various methods, including lectures, discussions, demonstrations, and direct practice. The use of supporting media, such as videos, leaflets, and presentation slides, further enriches the session, making it more interactive and interesting for participants ¹³.

Program Evaluation

The evaluation stage is carried out to obtain an overview of the results achieved by the counseling participants. Further input and improvements can be made at this stage. The evaluation is carried out by means of questions and answers and discussions, but the many questions asked by the participants indicate that the material presented is very interesting and there is still a lot of material that needs to be provided. The knowledge of these residents can be broader when the implementation of educational activities with the same theme can be carried out periodically which will ultimately change the attitudes and behavior of residents about Wound Care education. The implementation of this activity must also involve teachers, health workers and families in order to improve health levels.

The DM wound care health education program ended with an evaluation phase, where participants completed a post-test to measure the knowledge, attitudes, and skills they had acquired. This evaluation aimed to identify changes in their understanding and ability to implement DM wound care practices using honey.¹⁴

Through these structured stages, the program successfully raised awareness and provided practical tools to improve

knowledge and skills, ensuring participants understood the ongoing health benefits.

Documentation of health education activities for wound care using pure honey



Figure 4.1 Documentation of Community Service Activities (Education) The Importance of Maintaining Blood Sugar Levels and Treating DM Wounds

4. CONCLUSION

Education and demonstration of DM wound care that is carried out has an influence on increasing knowledge related to diabetes mellitus. The community becomes more aware of treatment, prevention is used as an alternative intervention for diabetes sufferers. A more realistic picture of how to properly care for DM wounds is provided through demonstrations.

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