

## EDUCATION OF DIABETIC FOOT CARE IN PATIENTS WITH DM IN THE WORKING AREA OF PUSKESMAS 1 ULU

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### Abstract

The community service activities that have been performed were aimed at increasing the community knowledge, especially cadres and patients with diabetes mellitus, in diabetic foot care. Increasing trends of diabetes cases will also increase the incidence of foot ulcers. Therefore, it is important for cadres and community members to understand diabetic foot care. This community service activity consists of several stages; preliminary survey, implementation of activities, and evaluation. This activity involved health workers at the Puskesmas, five cadres, and 21 people with diabetes. Participants were very enthusiastic in answering and asking questions in educational activities. The patient also gets foot and wound care during this activity. This activity needs to be conducted continuously to prevent further complications from diabetes.

**Keywords:** Cadre, Diabetes, Foot Care.

### INTRODUCTION

Diabetes Mellitus (DM) is characterized by hyperglycemia due to abnormalities in insulin secretion, insulin action, or both (Soelistijo, 2021). The national prevalence of people with diabetes in Indonesia is 6.8%. In addition, data from the health office states that the number of people with diabetes in South Sumatra is still in the range of tens of thousands of people. The incidence of diabetes in Palembang City ranks ninth (Dinas Kesehatan Kota Palembang, 2017).

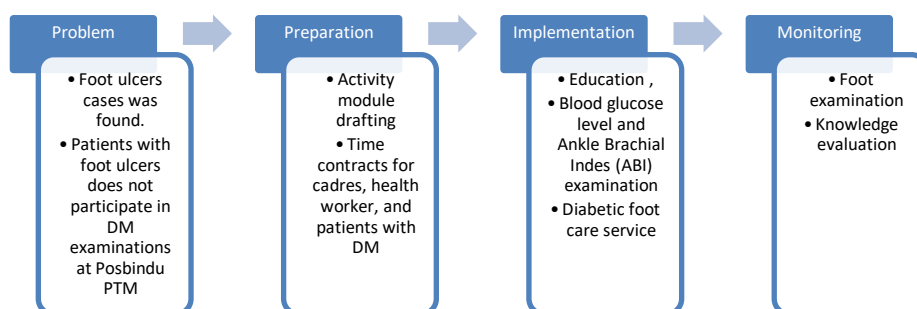
Diabetes mellitus is a disease that can cause the most complications compared to other diseases. Diabetes causes complications in all organs, especially the heart and kidneys, including retinopathy and amputation (International Diabetes Federation, 2019). Death and disability also affect the quality of life of people with diabetes (Kemenkes RI, 2019).

Amputations are performed when there are complications of neuropathy. If left unchecked, there is a risk of developing diabetic ulcers (Soelistijo, 2021). In 2018, diabetic ulcer cases at RSUP Dr. Moh. Hoesin hospital experienced an increase to 821 patients. The interview results with several diabetes patients found that patients did not understand how to do foot care, and at every visit to the *Pos Pembinaan Terpadu* (Posbindu), there was no diabetic foot care service. Patient awareness to perform foot care and realize the importance of routine blood sugar checks needs to be established to prevent further complications. The World Health Organization (WHO) states that basic care for people with diabetes and reducing the prevalence of diabetic ulcers requires education in the form of preventive and promotive actions (Soelistijo, 2021).

Diabetic ulcer prevention education can be in the form of foot self-management. Diabetic self-care is an important factor in controlling the disease, with 95% influenced by the patient's self-awareness and family participation. In addition, health education about diabetic foot care is essential in increasing patient and caregiver knowledge and changing attitudes toward performing the care at home (Munali et al., 2019). Therefore, it is necessary to conduct health education for DM patients in the Puskesmas Ulu working area to understand and be able to perform foot care independently.

## IMPLEMENTATION METHOD

The Community Partnership Program/*Program Kemitraan Masyarakat* (PKM) for diabetic foot care uses the following activity implementation flow:



**Figure 1. Activity implementation flow**

The activity was performed in the working area of the Puskesmas I Ulu at Posbindu PTM, involving five health workers and Posbindu non-communicable diseases (PTM) administrators, five PTM cadres, and 21 patients with diabetes. The activity implementation was performed following the activity flow, as shown in Figure 1. The education consists of the concept of diabetes disease and foot care. Examinations performed including blood glucose level and Ankle Brachial Index (ABI). In addition, the follow-up service includes diabetic foot care, especially for patients with diabetic ulcers.

## RESULTS AND DISCUSSION

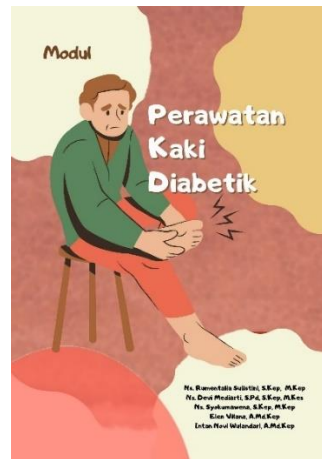
Community service activities were performed through several stages; preliminary survey, preparation, implementation (education and diabetic foot care service), and evaluation.

### Preliminary Survey

This activity stage involved obtaining permits from the health office and the designated Puskesmas. Coordination was performed at this stage to finalize activities and arrange time contracts for activity implementation, settings, and time. In addition, this activity received full support from the Puskesmas by granting permission to conduct survey activities in the Puskesmas working area.

## Preparation

Preparation for the implementation of education and diabetic foot care service includes; the preparation of tools, materials, and instruments needed for activity implementation. At this stage, the research team prepared a diabetic foot care module (Figure 2) that cadres and patients can use for reference information and guideline in performing foot care activities at home.



**Figure 2. Diabetic foot care module**

## Activity Implementation: Diabetic Food Care Education and Service

The activity implementation on diabetic foot care education and service was conducted simultaneously. Activity implementation stages were as follows: registration, vital sign examination, and blood glucose level measurement. Then, the activity was followed by providing education on diabetic foot care and foot care service for DM patients who have diabetic wounds.



**Figure 3. Baseline examination**



**Figure 4. Foot examination (ABI)**

The education was conducted at Puskesmas Ulu 1 meeting room attended by health workers, Posbindu administrators, cadres, and patients with DM. Participants received explanations about diabetes and how to do foot care and wound care at home. The community service activity was conducted at Puskesmas 1 Ulu, which involved the PTM administrators at Puskesmas 1 Ulu, involving five health workers and Posbindu non-communicable diseases

(PTM) administrators, five PTM cadres, and 21 patients with diabetes. The characteristics of the patients are shown in Table 1.

**Table 1. The characteristic of patients with DM**

Variable	N	%
Age (year)		
< 60	8	38.1
≥ 60	13	61.9
Sex		
Male	1	4.8
Female	20	95.2
Time with the disease (year)		
< 5	15	71.4
≥ 5	6	28.6
Wound		
No	19	90.5
Yes	2	9.5
Blood glucose (mg/dL)		
< 200	7	33.3
≥ 200	14	66.7

There were 61.9% more elderly patients than those under 60 years old, with 95.5% of the DM patients being female. In addition, most patients had DM under five years of age, and 90.5% did not have diabetic wounds. In addition, from the examination results, 66.7% of the patient's blood glucose measurements were above 200 mg/dL.



**Figure 5. Education activity documentation**

## Evaluation

The evaluation activity was performed by asking several questions about the educational materials at the end of the presentation. Participants were enthusiastically asked and gave answers to the questions related to diabetic foot care. In the last week, the research team coordinated with health workers to follow up on the continuation of this program at Posbindu

in the working area of Puskesmas 1 Ulu. In addition, the team was also submitting diabetic foot care modules as a guideline for Posbindu PTM administrators and cadres. However, the information and knowledge provided require understanding and practice, especially for cadres. Therefore, it is necessary to conduct training for cadres in performing diabetic foot care so that cadres can act as educators during Posbindu PTM services.



**Figure 6. Diabetic foot care**

Information about diabetes and foot care was provided by explaining, discussing, and question-and-answer methods. In addition, a foot care module has been provided as a guideline for cadres and patients with DM as reference information about diabetes and foot care. The health education provided aims to increase the DM patient's knowledge and is an effort to motivate patients to be responsible for their own health (Munali et al., 2019). Several studies have found that the duration of patients living with diabetes is significantly associated with the incidence of neuropathy (Sari & Taufiqurrahman, 2021). Furthermore, the duration of patients living with diabetes is also positively correlated with the health conditions of patients (Sulistini et al., 2022). Therefore, this knowledge is pivotal for patients with diabetes to manage their disease's severity.

This activity has contributed to increasing the DM patient's knowledge and cadres. However, continuous education is needed so that there is a behavioral change in conducting foot care. Cadres are an important part of the monitoring process and improving public health. Therefore, cadre empowering effort is essential, especially in preventing Non-communicable Diseases (PTM). This empowerment is carried out by training cadres on theory and practice related to PTM (Dyan & Hidayati, 2016). Community participation, especially cadres, in helping patients with diabetes to maintain or even improve their health status and quality of life (Fathonah, 2021). Community participation and proper management of diabetes hopefully will optimally reduce costs incurred by the family (Hidayat et al., 2022).

## CONCLUSION

This activity adds insight and knowledge of cadres and DM patients in performing diabetic foot care. Education has to be performed continuously for cadres and diabetics patients to encourage the formation of good behavior in managing diabetes and preventing complications.

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