

Diabetic Foot Care Training in Community Service Activities at Haji Hospital Surabaya

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ABSTRACT

Introduction: Diabetic foot disease is prevalent and tends to increase along with diabetes mellitus. If a diabetic foot wound occurs, it does not heal quickly, it may not heal, or there is a risk of amputation. Diabetic foot wounds also require treatment at a clinic or hospital and interfere with activities, both work and social life. Meanwhile, public knowledge about diabetes and diabetic foot care is very lacking. For this reason, community service is currently conducting diabetic foot training in the community. **Method:** Community service with the topic of diabetes foot care training was carried out at the Haji Hospital, East Java Province, from 6 October 2024 to 12 October 2024, involving 10 young doctors from Muhammadiyah University who were currently stationed in the surgical department. This community outreach has produced leaflets and educational videos on diabetic foot care and has conducted training for 50 patients and families of diabetic foot sufferers. The response from the training participants was excellent, with their enthusiasm following the training stages, and in evaluating the posttest results, there was a significant increase compared to the pretest. **Results:** The majority of respondents' gender were female, namely 28 people (56%). Most respondents were over 60, namely 26 people (52%). Most recent education was SMA/SMK as many as 22 people (44%). There was an increase in the average pre-test and post-test results, and there was a significant difference in the post-test compared to the pre-test after the diabetic foot care training was carried out with a p-value <0.05. **Conclusion:** Community service with diabetes foot care training is essential and valuable for the community, especially for diabetes mellitus sufferers. It is hoped that in the future, diabetic foot care training can continue with broader coverage using the leaflets and educational videos that have been made.

Keywords: treatment; diabetic foot; pretest; post-test.

INTRODUCTION

There are a lot of people suffering from diabetic foot wounds, and they tend to increase along with the increase in people with diabetes. Diabetic foot wounds are a serious problem for sufferers; apart from taking a long time to heal and possibly not healing or being forced to have an amputation, the patient is also unable to work and becomes a burden on the family, where family members have to work to earn money. Patients also have to go to the hospital for examination and treatment repeatedly.

In this situation, patients with diabetes mellitus or diabetic foot wounds need attention in management. Education is critical to provide knowledge ranging

from preventing diabetic foot wounds to wound care when diabetic foot wounds occur.

In relation to industry, patients who suffer from diabetic foot wounds will definitely not be able to work and will disrupt the performance of the company wherever the patient works. The family of a patient who has a diabetic foot wound will have their work activities disrupted if the family is working because they have to repeatedly take their family to the hospital or clinic and have to make time to care for the diabetic wound.

Education can have many methods in community service, using two methods, namely learning with

leaflets and with videos adapted to the patient's and family's circumstances, which method can increase knowledge and implement daily diabetic foot care.

METHOD

The implementation of community service began with discussions with the management of the East Java Province Hajj Hospital, which is the place where community service is carried out. In this discussion forum, it was determined that the problem that occurs frequently and affects the lives of patients is diabetic foot wounds. Then it was agreed that the community training method used was a training method for diabetic foot care by young Muhammadiyah doctors directly to patients or families of patients suffering from diabetes or who had experienced diabetic foot wounds. This method is used because patients suffering from diabetic foot wounds cannot be gathered together to be given training so direct training is needed at the location where the patient is being treated.

The next stage is to determine the materials used for the training and it is agreed to make leaflets and videos for the training. The leaflets and videos are made quite informative so that they are easy for patients and their families to understand. The choice of leaflet or video learning depends on the patient's condition which is suitable for this method. The target of the training is to increase knowledge and skills in caring for diabetic feet both before there is a wound and after there is a wound.



FIGURE 2: Educational video on diabetic foot care.

The training was carried out by 10 young doctors who were currently stationed in the surgical department and the training target was 50 people with diabetic feet. The training procedure is to identify patients suffering from diabetic foot wounds, introduce oneself to the patient and the patient's family, and convey the objectives of the mandatory service by providing training in diabetic foot care. If the patient or family is willing, a pretest is carried out, then the training can be carried out using leaflets or learning videos depending on the condition of the patient and family. Then, after the training, they are given a post-test sheet to evaluate the progress of the patient's or the patient's family's knowledge.

All training processes are recorded, including obstacles that may arise during training and tabulation of pretest and posttest training scores.

RESULT

Implementation of community service from 6 October to 12 October 2024 at the East Java Province Hajj Hospital. The training was carried out directly by 10 young doctors who were on station in the surgical department of Hajj Hospital Surabaya for 50 patients and their families with diabetic feet. The training participants were very enthusiastic about taking part in the training and paid attention to the stages of diabetic foot care.

TABLE 1: Characteristic of Subject.

Characteristics	n (%) (n=50)
Gender	
Male	22 (44)
Female	28 (56)
Ages*	
38-50 years old	9 (20)
51-60 years old	15 (28)
>60 years old	26 (52)
Last Education	
No School	3 (12)
Elementary School	15 (24)
Junior High School	4 (4)
Senior High School	22 (44)
S1/S2	6 (16)

*Mean (SD).

Based on the table above, the majority of respondents were female, namely 28 people (56%) while 22 people were men (44%).



FIGURES 1: Leaflet on diabetes mellitus foot care education.

The age distribution of respondents is mostly over 60 years old, namely, 26 people (52%) and the least is in the 38-50-year age range, 9 people (20%). The highest distribution of final education is SMA/SMK as many as 22 people (44%), and the least is no school as many as 3 people (12%) (Table 1).

TABLE 2: Differences between pretest and posttest training.

	n (%) (n=50)	Mean	P-Value
Pre-Test	812	31	0,033
Post- Test	948	39	

Fifty patients and families all took a pretest before the training and a posttest after the training to find out how much knowledge and skills had increased in diabetic foot care. The results of statistical calculations showed an increase in the total score and average of the pre-test and post-test results and there was a significant difference in the post-test compared to the pre-test after the diabetic foot care training was carried out with a p-value <0.05.



FIGURE 3: Education with leaflets and videos.

DISCUSSION

The results of diabetic foot training for patient and family participants are significant in increasing knowledge and skills in diabetic foot care. It is very important for patients and families to prevent diabetic foot wounds. If there is already a wound, they can treat it so that it heals quickly and prevents repeated wounds or wounds on the other leg. The incidence of diabetic foot wounds is relatively high in diabetic sufferers, and if you already suffer from diabetic foot wounds, healing takes a long time; they may not heal or even have to be amputated. This is a challenging condition for the patient and family because they cannot work, they have to go to the clinic or hospital for treatment periodically frequently, and they may even have to be hospitalized. Social life in the community is also hampered due to injuries and the inability to walk for activities.

Meanwhile, the public's knowledge of diabetes and diabetic foot wounds is inferior, so the risk of suffering from diabetic foot wounds is high, and people often come to the hospital for treatment when the wound is so severe that it requires debridement surgery or requires amputation surgery. Therefore, the public needs to receive continuous education regarding knowledge of diabetes mellitus and the risk of complications from diabetic foot wounds. We carry out this education

through community service by providing training on diabetic foot care.

The results of the community service that we carried out were leaflets and educational videos on wound care; 50 patients and their families received training to increase their knowledge and skills in wound care, thereby preventing diabetic foot wounds from occurring or treating diabetic feet so they could heal quickly. The educational leaflets and videos created are very informative, so they can be used for further education with a broader scope through existing social media facilities such as Facebook and Instagram so that more people can receive education about treating diabetic foot wounds.

For young doctors who actively participate in the training, it provides benefits in learning how to create community service programs, carry out community service programs directly, increase knowledge of wound care techniques, and create program reports and publications.

CONCLUSION

The implementation of community service regarding diabetic foot care training was successful as evidenced by the increase in post-test results compared to the pretest and the very large response from participants because they knew the benefits of this training. This community service resulted in educational leaflets and videos that can be used for further education with a wider scope so that more people receive education on diabetic foot care.

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REFERENCES

- [1] Raja J.M, Maturana M.A, Kayali S, Khouzam A, Efeovbokhan N, Diabetic foot ulcer: A comprehensive review of pathophysiology and management modalities, *World J Clin Cases* 2023 March 16; 11(8): 1684-1693.
- [2] Bus S.A, Lavery L.A, IWGDF Guideline On The Prevention Of Foot Ulcers In Persons With Diabetes, 2019, The International Working Group on the Diabetic Foot.
- [3] Saltar L, Sahar J, The Intervention of Foot Care Education in the Prevention of Diabetic Foot Ulcers: A Literature Review, *International Summit on Science Technology and Humanity (ISETH)* 2020.
- [4] Apriani D, Saputra B, Roslita R, Pengaruh Edukasi Perawatan Kaki Menggunakan Media Video Terhadap Perilaku Pencegahan Terjadinya Luka Diabetik pada Pasien Diabetes Militus, *Keskom*, Vol 10, No 1, 2024.
- [5] Hi Firdaus. Kunoli Y, Pengaruh Model Intervensi Konseling melalui Leaflet Terhadap Pengetahuan Pencegahan Luka Diabetik pada Pasien Diabetes Mellitus di RSUD Madani Palu, *Jurnal Kolaboratif Sains*, Volume 7 No. 6, Juni 2024, 2081-2088.