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The Effect of Diabetic Foot Management Education Through Audiovisual Media on the Quality of Life of Diabetes Mellitus Patients at the Internal Medicine Polyclinic of Fatmawati Hospital

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ABSTRACT
Diabetes Mellitus can have a long-term impact in the form of disorders in blood vessels, both macrovascular and microvascular, which can result in a decrease in quality of life encompassing physical, psychological, social, and environmental aspects. The purpose of this study is to determine the effect of Diabetes foot management education using audiovisual media on the quality of life of Diabetes Mellitus patients. This study employs a quantitative research method, specifically a pre-experimental design, utilizing *the one-group pretest-posttest design* (*pretest-posttest* in one group). Samples were obtained using a purposive sampling technique, totaling 50 patients with Diabetes Mellitus at the Internal Medicine Polyclinic of Fatmawati Hospital. The results of the study found that the average value of the respondents' quality of life before treatment was 91.44, with a variation of 6.689. The average value of the respondents' quality of life after treatment was 92.62, with a variation of 6.661. Based on the results *of the paired t-test*, this study showed an improvement in the quality of life of the respondents after being given education through audiovisual media, with a value of p=0.002. It is hoped that the educational video on diabetes foot management in this study can be used as an educational medium in providing nursing interventions related to efforts to improve the quality of life of Diabetes Mellitus patients.

Keywords: Quality of life and Diabetes Mellitus, Diabetes foot management

INTRODUCTION

Diabetes Mellitus is a group of metabolic diseases with hyperglycemia characteristics that occur due to abnormalities in insulin secretion, insulin action, or both (Perkeni, 2021) . Based on WHO data (2022), Diabetes Mellitus is one of the global health threats, where around 422 million people in the world suffer from Diabetes Mellitus. Based on data published by the WHO, Diabetes will be one of the top 10 causes of death. According to the International Diabetes Federation, 537 million people suffer from Diabetes Mellitus and it is predicted to increase to 643 million by 2030. Even in 2045 diabetes patients are estimated to number 783 million people. In Indonesia, based on data from the Indonesian Ministry of Health (2020), it was reported that there were 10.7 million patients with Diabetes Mellitus, and also 1.5 million people died from Diabetes Mellitus. DK Jakarta is one of the provinces with the highest prevalence of Diabetes Mellitus in Indonesia. Based on Basic Health Research (Riskesdas, 2018), the prevalence of Diabetes Mellitus in Jakarta increased from 2.5% to 3.4% out of a total of 10.5 million people or around 250 thousand people. At Fatmawati Hospital, the data on visits to Diabetes Mellitus patients in the Outpatient Installation in 2024 is 6812 visits. (IDF, 2021)

Perkeni (2021) stated that complications that occur due to Diabetes Mellitus can be in the form of disorders in blood vessels, both macrovascular and microvascular, as well as disorders in the nervous system or neuropathy. This disorder can occur in patients with type 2 diabetes mellitus who have been suffering from the

disease for a long time or newly diagnosed type 2 diabetes mellitus. Macrovascular complications generally affect the heart organs, brain, and blood vessels, while microvascular can occur in the eyes and kidneys. Complaints of neuropathy are also often experienced by patients with Diabetes Mellitus, both motor, sensory and autonomic neuropathy (Perkeni, 2021) Diabetic neuropathy causes loss of perception of joint movement and loss of sensation of foot protection.

Decreased protective sensation includes pain, temperature and vibrational touch so that Diabetes Mellitus patients will easily experience trauma without feeling the continuation of diabetic ulcers. A diabetic ulcer that is not handled properly will lead to the risk of amputation. In the world, every 30 seconds there has been an amputation of the lower limb (Istiroha et al., 2017) (Valizadeh et al., 2014) . The presence of diabetic ulcers and amputations results in a decrease in quality of life.

Quality of life is a concept related to the level of well-being of Diabetes Mellitus patients both in terms of psychological, physical, social and environmental aspects. Quality of life needs serious attention because it is closely related to a person's health status, disease severity, morbidity and mortality rate, length of recovery and can worsen disease conditions which can then result in death if a person's quality of life is in very poor condition. (Arifin & Nani, 2020)

For Diabetes Mellitus patients, it is recommended to further increase awareness of Diabetes, one of which is to improve foot care behaviors to minimize the occurrence of diabetic foot ulcers and improve the quality of life of Diabetes Mellitus patients. Everyone, including Diabetes Mellitus patients, has hopes for a normal and quality life in their lives, so to meet their quality of life, Diabetes Mellitus patients need seriousness to understand diabetes management, one of which is foot care management, and it also takes the role of nurses to provide diabetes education related to diabetes foot management education. This research is very important to develop nursing interventions for the management of diabetic foot as well as to improve the quality of life of Diabetes Mellitus patients. (Safitri et al., 2022)

METHOD

This study uses the quantitative research method: pre-experimental design, research design, *The one group pretest-posttest design* (*pretest-posttest* in one group). The criteria for inclusion of the sample in this study are: have been diagnosed with Diabetes Mellitus by an internal medicine specialist at the Internal Medicine Polyclinic of Fatmawati Hospital, willing to be a respondent, able to communicate, read, write and speak Indonesian well, are not experiencing injuries, patients of Diabetes Mellitus Poly of Internal Medicine at Fatmawati Hospital.

The sample exclusion criteria in this study were: patients with Diabetes Mellitus who have complications of stage 5 CKD, patients with Diabetes Mellitus who have complications of CHF NYHA 3&4 and patients with cognitive impairment. Data collection was carried out from June 16, 2025 to July 18, 2025 at the internal medicine polyclinic of Fatmawati Hospital and 50 respondents were obtained. A certificate of passing the ethics test was obtained from the University of Indonesia Maju.

The instrument used in this study is the WHOQOL-BREF questionnaire, this instrument has been tested for validity and reliability by Resmi & Misbach (2019) . Univariate data analysis using proportions and percentages, bivariate analysis using paired t-test. Data analysis using SPSS.

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RESULTS AND DISCUSSION

Table 1 Distribution of Frequency and Percentage of Respondent Characteristics Data at the Internal Medicine Polyclinic of Fatmawati Hospital in June-July 2025 (N=50)

Characteristics	Frequency (f)	Percentage (%)
Age		
a. 18-44 years old	6	12
b. 45-59 years old	21	42
c. >60 years old	23	46
Gender		
a. Man	17	34
b. Woman	33	66
Education Level		
a. No school	1	2
b. SD	4	8
c. SMP	2	4
d. SMA	12	24
e. College	31	62
Work		
a. Not Working	27	54
b. Work	23	46
Long Suffering from DM		
a. < 1 year	5	10
b. 1 – 10 years	21	42
c. > 10 years	24	48
Medications used		
a. OAD	29	58
b. Insulin	7	14
c. OAD dan Insulin	14	28

From table 1, it shows that the age of the respondents is mostly over 60 years old as many as 23 respondents (46%). The gender of the respondents was mostly female as many as 33 respondents (66%). The education level of most academies or colleges was 31 respondents (62%). The job status of respondents was mostly unemployed as many as 27 respondents (54%). The length of time Diabetes Mellitus was mostly more than 10 years for 24 respondents (48%). The type of drug used mostly used OAD as many as 29 respondents (58%).

Table 2. The Effect of Diabetes Foot Management Education on the Quality of Life of Diabetes Mellitus Patients at the Internal Medicine Polyclinic of Fatmawati Hospital (N=50)

Variabel	Measurement	Mean	Mean Different	95% CI	*P Value*
Quality of Life	Before	91,62	0,82	0,473 – 1,887	0,002
	After	92,44			

Table 2 shows that the average value of the respondents' quality of life before treatment was 91.44 with a variation of 6.689. The average value of the respondents' quality of life after treatment was 92.62 with a variation of 6.661. In general, an increase in the quality of life score was obtained in the second measurement. The

paired test showed that the p *value* was 0.002 (< 0.05) meaning that there was a significant difference in quality of life score between before and after treatment.

Discussion

This research is identical to the results of research presented by Hidayatullah (2023) , that there are several education related to diabetes management that can reduce the risk of complications from Diabetes Mellitus and can improve the quality of life of Diabetes Mellitus patients, including regular medical treatment, taking diabetes medications regularly, exercising regularly, and adjusting diet. This study explains that there is an influence of education with audiovisual media on the quality of life of Diabetes Mellitus patients.

This research is in line with research Ulfa et al., (2021) , education using audiovisual media also has a great effect on improving the quality of life compared to using leaflat media. According to this study, there is a significant influence before and after education through audiovisual media. In line with the results of the research conducted by, from the results of statistical tests, there was a significant difference in quality of life before and after being given an education package. The results of this study have proven the importance of health education in improving the quality of life. (Ladesvita et al., 2022)

The researcher's assumption in this study is that Diabetes Mellitus can have an impact on long-term damage in the form of disorders in blood vessels, both macrovascular and microvascular. One of the complications of microvascular vascular disorders is diabetic neuropathy (Perkeni, 2021). Diabetic neuropathy causes loss of perception of joint movement and loss of sensation of foot protection. Decreased protective sensation includes pain, temperature and vibrational touch so that Diabetes Mellitus patients will easily experience trauma without feeling the continuation of diabetic ulcers. (Istiroha et al., 2017) The presence of diabetic ulcers and amputations results in a decrease in quality of life which includes physical, psychological, social and environmental aspects.

The existence of complications due to diabetic neuropathy, the role of nurses is needed in efforts to prevent complications to increase the productivity and quality of life of Diabetes Mellitus patients. One of the prevention efforts is diabetes foot management education. Foot management education in diabetic patients can improve patients' knowledge and skills in maintaining foot health so that it can prevent complications such as diabetic foot ulcers that often occur in Diabetes Mellitus patients. Improving knowledge and skills through education encourages patients to carry out foot care independently and regularly, which can ultimately improve the quality of life of Diabetes Mellitus patients by reducing the risk of foot problems and other complications.

The researcher argues that the success of diabetes foot management education in improving the quality of life of Diabetes Mellitus patients is also supported by the audiovisual media used. Audiovisual media is a medium that can be received through the senses of sight and hearing, so that individuals do not only see but listen simultaneously (Nyoman et al., 2017). The advantages of audiovisual media compared to print media in general are that they are able to increase patient interest and motivation in participating in education, present more information, display three-dimensional visualizations, are more efficient in using time, educational video

recordings can be played back and watched anywhere, and educational materials are easy to update.

CONCLUSION

Diabetes foot management education through audiovisual media can improve the quality of life of Diabetes Mellitus patients, this educational material includes: good blood sugar control, control nutritional status as recommended by nutritionists, conduct periodic check-ups to health services, use comfortable footwear for protection against trauma to the feet, routinely check the feet every day, keep the feet clean, Use moisturizer so that your feet don't dry out, don't cut your toenails too short and file sharp nails after cutting your nails, avoid factors that may cause injuries such as walking barefoot, consult immediately if there are even the slightest wounds, and do regular foot exercises every day.

Suggestion

The diabetes foot management education video made in this study is expected to be used as an educational medium in providing nursing interventions related to efforts to improve the quality of life of Diabetes Mellitus patients in particular, and generally as a public education medium in increasing public awareness about diabetic foot management, so that this diabetic foot management education video can become a standard for nursing care intervention for Diabetes Mellitus patients.

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