

The Effect Of Giving Educative Videos About Diabetic Foot Gymnastics On The Implementation Of Foot Exercises In Patients With Type 2 Diabetes Mellitus At Chania Care Center Kediri District

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Abstract

Diabetes mellitus is a chronic disease that requires long-term treatment. In diabetes mellitus patients, physical exercise is often neglected, one of which is due to lack of knowledge. This research aims to determine the effect of educational videos about diabetic foot exercises on implementing foot exercises in type 2 diabetes mellitus patients at the Chania Care Center, Kediri Regency. The research design used a quasi-experimental design with a one-group pretest-posttest approach. The population in this study was 30 respondents. A total sample of 30 respondents was taken using the total sampling technique. The instrument used the observation sheet. Nominal data scale. The analysis test uses the Mc Nemar test. In this research, before giving the educational video, almost all of them did not do leg exercises, namely 23 respondents (76.7%), after giving the educational video, almost all of them did foot exercises, 26 respondents (86.7%). The results of the Mc Nemar Test analysis showed an effect of providing educational videos about diabetic foot exercises on implementing foot exercises in type 2 diabetes mellitus patients at the Chania care center in Kediri district ($p\text{-value} = 0.001 < \alpha=0.05$). A person's knowledge can increase after being given education or health education. Educational methods with videos about diabetes foot exercises can increase DM patients' knowledge of doing foot exercises to improve peripheral blood circulation to the feet.

Keywords: *Educational videos, Foot exercise, Diabetes mellitus patient*

INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease characterized by high blood sugar levels that occur due to the body being unable to use the insulin it produces effectively. It can also be interpreted that Diabetes Mellitus is caused by hyposecretion (too little hormone secretion) and hypoactivity (reduced activity) of insulin as a hormone that regulates blood sugar levels (Anani, 2018). All Diabetes Mellitus sufferers often neglect physical exercise or body movement, this can be caused by various factors such as limited time to do gymnastics (physical exercise) due to work, age does not allow it, and lack of interest in doing physical exercise, as well as lack of knowledge of the importance of physical exercise such as gymnastics (Sinaga, 2020).

The prevalence of international diabetes mellitus cases in 2021 is estimated at 1 in 10 or 537 million adults (2079 years) with diabetes mellitus. This number is projected to increase to 63 million in 2030 and 783 million in 2045 (International Diabetes Federation, 2021). According to the Ministry of Health of the Republic of Indonesia (2020) there are 10.7 million cases of Diabetes Mellitus in Indonesia. Meanwhile, in the East Java region, there were 875,745 Diabetes Mellitus sufferers in 2020 (East Java Provincial Health Service, 2020). Based on disease data in Kediri Regency, Diabetes Mellitus is included in the 10 highest

diseases, ranking fourth, in 2019 those suffering from Diabetes Mellitus experienced an increase of 9,435 people suffering from Diabetes Mellitus in terms of patient characteristics, namely gender, age, and region (Agency Kediri City Statistics Center, 2019). Based on a preliminary study, researchers conducted a survey at the Chania Care Center Clinic and obtained data that there were 30 patients suffering from Diabetes Mellitus. Based on data obtained from Chania Care Center clinic staff, there were quite a number of Diabetes Mellitus patients who did not do foot exercises. From the results of interviews with 30 patients suffering from diabetes mellitus, they preferred to go to the clinic to get medication, only around 10 patients had ever done foot exercises.

Sports activities are one of the pillars of Diabetes Mellitus management in addition to nutritional therapy (diet), physical exercise, monitoring, pharmacological therapy, and education. The benefits of sports activities for Diabetes Mellitus sufferers include reducing blood sugar levels, and preventing obesity by burning the body's calories so that blood glucose can be used for energy, thereby reducing sugar levels. Exercise (physical activity) is a very important method for Diabetes Mellitus sufferers, especially in dealing with increased glucose in the blood (Damayanti, 2019). Health education is an activity or effort to convey health messages to the community, groups or individuals with the hope that with these messages the community, group, or individual can gain better knowledge about health (Notoatmodjo, 2020). Effective health education is supported by the use of media that is interesting and more easily accepted by the target audience. One of the media for health education is video media. Video media is a medium that is easy to understand (Handayani & Marniati, 2018).

One of the recommended exercises is leg exercises. Foot exercises are movements to train the small muscles of the legs and improve blood circulation which are carried out in various positions such as sitting, standing, or lying down. These leg exercise movements can improve blood circulation in the legs, improve blood circulation, strengthen leg muscles, and make it easier for leg joints to move. In this way, it is hoped that the feet of diabetics can be well maintained and can improve the quality of life of diabetics. People are more interested in gymnastics because it does not require large costs and is done for 15-30 minutes at least 2 times a week for 2 weeks (Anneahira, 2018). Based on the background above, the author is interested in conducting research on the effect of providing educational videos about diabetic foot exercises on the implementation of foot exercises in people with type 2 diabetes mellitus.

METHODS

This research used a one-group pretest-posttest quasi-experimental design. The total sample was 30 type 2 DM patients from the Chania Center Kediri Clinic, who were taken using total sampling techniques. The intervention provided is education on diabetic foot exercises using video media. Data were analyzed using the Mc Nemar Test.

RESULTS

Table 1 Respondent's Characteristics

	Variable	n	%
Age (years old)	40-49	5	16.7
	50-59	7	23.3
	60-69	12	40.0
	>70	6	20.0
Gender	Man	12	40.0
	Women	18	60.0
Educational Level	Illiterate	7	23.3
	Elementary School	13	43.3
	Junior High School	2	6.7
	Senior High School	6	20.0

Employed	Collage	2	6.7
	Unemployment	7	23.3
	Farmer	16	53.3
	Self-employed	5	16.7
	Retired	2	6.7
	Government Employees	0	0.0

The results of the analysis based on Table 1 showed that most of the respondents' ages were between 60-69 years as many as 12 respondents (40.0%), the gender of the respondents were mostly women as many as 18 respondents (60.0%), education level was mostly elementary school as many as 13 respondents (43.4%), most of the respondents' occupations were farmers. as many as 16 respondents (53.3%).

Table 2 Implementation of Diabetic Foot Exercises Before Giving Education

Diabetic Foot Exercise	n	%
Yes	7	23.3
No	23	76.7

The results of the analysis based on table 2 showed that most respondents did not carry out diabetic foot exercises, 23 respondents (76.7%) before being given education.

Table 3 Implementation of Diabetic Foot Exercises After Providing Education

Diabetic Foot Exercise	n	%
Yes	26	86.7%
No	4	13.3%

The results of the analysis based on table 3 showed that most of the respondents carried out diabetic foot exercises, 26 respondents (86.7%) after being given education.

Table 4 Differences in the Implementation of Diabetic Foot Exercises

Diabetic Foot Exercise	Pre-test		Post-test		p-value
	n	%	n	%	
Yes	7	23.3	26	86.7	0.001
No	23	76.7	4	13.3	

The results of the analysis based on table 4 showed that there was a significant difference in the implementation of diabetic foot exercises before and after providing education to type 2 DM patients (p-value = 0.748; $\alpha < 0.05$).

DISCUSSION

Implementation of Diabetic Foot Exercises Before Giving Education

The results of the study showed that data on the frequency of performing foot exercises before providing educational videos on diabetic foot exercises on the implementation of foot exercises in patients with type 2 diabetes mellitus, almost all of them did not carry out foot exercises, as many as 23 respondents (76.7%). The implementation of foot exercises can also be

influenced by the level of education, based on table 5.4, it shows that almost half of them have elementary school education, 13 respondents (43.3%). Education is formal and non-formal learning that can be provided by anyone and for anyone (Rahman, 2013). With less education, respondents have less knowledge and information regarding the implementation of foot exercises. Knowledge is an important domain for forming a person's behavior or actions in carrying out diabetes foot exercises independently (Desalu, et al, 2011). Knowledge can be obtained through daily conversations, reading, listening, watching and other life experiences (Sundari, 2009).

According to researchers, the reason why they do not carry out diabetes mellitus foot exercises at the Chania Care Center is educational factors. Therefore, researchers assume that a high level of education and knowledge among respondents can speed up receiving information to increase understanding about the implementation of diabetic foot exercises. Education can influence respondents to develop their potential in actions or behavior to obtain the skills needed for their health. It is hoped that the higher the level of education of diabetes mellitus sufferers, the more information and understanding they will have regarding the implementation of diabetic foot exercises so that sufferers are able to improve the implementation of diabetic foot exercises well.

Implementation of Diabetic Foot Exercises After Providing Education

The results of the study showed that data on the frequency of performing foot exercises after providing an educational video on diabetic foot exercises on the implementation of foot exercises in patients with type 2 diabetes mellitus, almost all of them carried out foot exercises, 26 respondents (86.7%). Implementation of good diabetes foot exercises can be adapted through help and guidance from health workers, planned actions or behavior of respondents in controlling their disease to maintain and improve their health status and well-being. The education program for diabetes mellitus sufferers is a health education process that is carried out continuously to gain knowledge, skills, and the ability to carry out diabetes foot exercises independently (Sari, 2020). When respondents receive health education regarding the implementation of diabetic foot exercises, their knowledge of implementing foot exercises increases, all the steps for implementing diabetic foot exercises are known. This agrees with Damayanti's (2015) research that health education has a strong role in increasing individual knowledge to do things that are important for their health.

According to researchers, the behavior of someone who initially didn't know became aware because they received health education in the form of educational videos on diabetic foot exercises and instructions from health workers continuously. Thus, health education through educational videos is a process of respondents learning for business or helping respondents improve their abilities in terms of knowledge, attitudes, behavior and skills to achieve optimal implementation. This shows that after being given health education in the form of an educational video on diabetic foot exercises, it had a good influence on the implementation of almost all of them carrying out diabetic foot exercises. So, providing educational videos on diabetic foot exercises is very effective in making it easier for patients to carry out diabetic foot exercises.

Differences in the Implementation of Diabetic Foot Exercises Before and After Education

The results of the study showed that there was a significant difference in the implementation of diabetic foot exercises before and after providing education to type 2 DM patients (p -value = 0.748; $\alpha < 0.05$). Videos are images that are projected through a projector lens mechanically so

that a live image is visible on the screen. The ability of video to depict vivid images and sound gives it its own appeal. Videos can present information, explain processes, explain complex concepts, teach skills, shorten or lengthen time, and influence attitudes. Learning video media is media that presents audio and visuals containing learning messages that contain concepts, principles, procedures and theories of knowledge application to help understand learning material (Ariyanti, 2020). According to researchers, educational videos about foot exercises can influence the implementation of foot exercises because they can be watched repeatedly, making it easier for respondents to carry out, motivate and educate, where diabetic foot exercises have the effect of helping improve blood circulation in the legs, helping improve blood circulation, strengthens the small muscles of the legs, increases the strength of the calf muscles, and overcomes limited joint movement.

CONCLUSION

Pengetahuan seseorang dapat meningkat setelah diberikan suatu edukasi atau pendidikan kesehatan. Metode edukasi dengan video tentang senam kaki diabetes dapat meningkatkan pengetahuan pasien DM melakukan senam kaki untuk meningkatkan sirkulasi darah perifer ke kaki.

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