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THE IMPACT OF EDUMISEKI MEDIA ON THE KNOWLEDGE OF DIABETES MELLITUS PATIENTS IN THE SIMPANG IV SIPIN HEALTH CENTER WORK AREA

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ABSTRACT

Background: *A group of metabolic diseases known as diabetes mellitus is characterized by hyperglycemia, which can be caused by anomalies in insulin secretion, insulin activity, or both. The fifth highest number of countries with diabetes mellitus is Indonesia. In 2021, there were 19.5 million people with diabetes, and by 2045, that number is predicted to increase to 28.6 million. More specifically, in 2022, Jambi City had 21,127 people with diabetes mellitus, the most of all cities in Jambi Province. to overcome gangrene complications in diabetes patients, namely with foot exercises. foot exercises can improve blood circulation in. The purpose of this study was to improve the knowledge of diabetes patients through EDUMISEKI videos.*
Method: *The approach is quantitative. Pre-experimental study using a single group pre-test and post-test design is the methodology employed. 55 respondents made up the study's sample, which was selected using a stratified random sampling technique.*
Result: *The results of this study were an increase in knowledge from 8.76% to 13.89% and had a significant influence on knowledge about diabetes mellitus and foot exercises with a p-value of 0.00 (p<0.05).*
Conclusion: *The results of this study indicate the influence and increase in knowledge of diabetes mellitus patients. Diabetes foot exercises are being used to increase blood flow and prevent foot gangrene issues. As part of this program, stakeholders are encouraged to participate from a wider range of sectors to assure the activity's sustainability and growth.*

Keywords: *Diabetes Mellitus, Foot Exercises, Knowledge, Video Media*

INTRODUCTION

One of the chronic illnesses that is currently prevalent in society is diabetes mellitus (DM). The American Diabetes Association (ADA), 2020) defines diabetes mellitus as a collection of metabolic illnesses marked by hyperglycemia that results in abnormalities in insulin action, secretion, or both (Davies et al., 2022).

The International Diabetes Federation (IDF) estimates that 537 million people worldwide had diabetes in 2021, and that number is expected to rise to 783 million over the course of the next 24 years (IDF Diabetes Atlas, n.d. 2021). Globally, the anticipated prevalence of diabetes mellitus was 9.3% in 2019 (463 million people), 10.2% in 2030 (578 million people), and 10.9% in 2045 (700 million people). According to Saeedi et al. (2019), one in two (50.1%) diabetics are unaware that they have the disease.

The number of DM sufferers in Indonesia according to IDF in 2021 was around 8.4 million people in 2000 and is estimated to increase by 21.3 million people in 20230. The number of Indonesian people suffering from diabetes mellitus is 19.46 million people. There was an increase of 81.8 percent compared to the number in 2019. The total cases put Indonesia in fifth position with the highest number of diabetes sufferers in the world (JEC Eye Hospital, n.d., 2021).

Specifically, Jambi City ranks first with the highest cases of diabetes mellitus in Jambi Province with a total of 21,127 cases of diabetes mellitus sufferers from 20 existing health centers with the majority of patients aged over

15 years. According to data from the Jambi City Health Office, the Simpang IV Sipin Health Center ranks second with a total of 2,200 cases (Jambi City Health Office, 2023).

The further impacts of complications of diabetes mellitus are heart disease, stroke, kidney disease, eye damage, gangrene and others that can endanger personal health (Safira., 2021). Various factors that cause diabetes mellitus such as family history, unhealthy lifestyle, obesity, use of drugs that can change blood glucose levels which can contribute to an increase in the occurrence of diabetes mellitus (Rif'at et al., 2023).

Some cases where diabetes mellitus patients do not know how to prevent complications of diabetes mellitus. Therefore, to prevent complications of gangrene in diabetes mellitus patients, namely by doing foot exercises.

Patients with diabetes mellitus can prevent sores and improve blood circulation in their legs by engaging in diabetic foot exercises. Furthermore, it can overcome restricted movement of the leg joints and strengthen the thigh and calf muscles (Widianti & Proverawati, 2018). One strategy to control diabetes mellitus is to engage in physical activity. One of the cornerstones of managing diabetes is engaging in regular exercise and physical activity three to four times a week for thirty minutes (Ministry of Health of the Republic of Indonesia, 2020).

Diabetes can not be cured completely, but it can be managed and controlled blood sugar levels well. Therefore, the EDUMISEKI video is a combination of diabetes mellitus education and foot exercises and the illustrations in the video are real videos and foot exercises that have a tempo and rhythm that are easy for anyone to follow.

Video media as an intermediary to provide education on diabetes mellitus and foot exercises for diabetes mellitus patients. With the existence of effective educational media, especially in preventing disease, it is very important to improve the knowledge and skills of diabetes mellitus patients. As a study conducted by Ambarwati et al., 2023, it was found that health education using reflectivity and video media was effective in improving the ability of diabetes patients to do foot exercises. A similar study by Angelina et al. in 2021 found an increase in knowledge before and after health education using audio visuals. Learning using videos can be recorded repeatedly, the loudness or softness of the sound can be adjusted according to the needs of the respondents.

Based on the above phenomenon, the researcher is interested in conducting research on "The Impact of EDUMISEKI Video Media (Diabetes Mellitus Education and Foot Exercise) on the Knowledge of Diabetes Mellitus Patients in the Simpang IV Sipin Health Center Work Area".

METHODS

The research design is pre-experimental with a single group pretest and posttest, and the methodology is quantitative. 55 respondents participated in the survey, which was carried out over the course of one week and two sessions in April 2025 using stratified random sampling as the sample approach.

The criteria of the sample are people who live in the work area of Simpang IV Sipin Health Center, aged 20-79 years, diabetes mellitus patients diagnosed by a doctor, good coordination, respondents are willing and willing to be samples of this study. The data collection tool in the study of the influence of EDUMISEKI video media (Diabetes Mellitus Education and Foot Exercise) on the knowledge and skills of diabetes mellitus patients in the work area of Simpang IV Sipin Health Center is a questionnaire used to determine the level of knowledge and skills of diabetes mellitus patients.

This research has obtained a research Ethical Clearance letter with the number LB.02.06/2/189/2025.

RESULTS AND DISCUSSION

3.1 Respondent Characteristics

Table 1. Distribution of Respondent Characteristics

Characteristics	n	%
Age		
18-59 years	17	30.9
60>years	38	69.1
Total	**55**	100
Gender		
Male	16	29.1
Female	39	70.9
Total	**55**	100

**Data processing source 2025*

Table 1 shows that, at 69.1%, the majority of respondents are over 60. Although diabetes mellitus often affects the elderly, there is concern worldwide about the rise in diabetes incidence in both adults and children (Hadi, 2020).

Obesity, poor lifestyles, and genetic factors are some of the variables that contribute to diabetes mellitus in individuals. Children are more at risk due to genetic susceptibility, particularly if diabetes runs in the family. Another significant risk factor is obesity, which is linked to a diet heavy in fat and low in fiber, as well as inactivity. Imbalances in glucose metabolism, such as insulin resistance, can increase the risk, as can hormonal changes during puberty. Rapid economic growth, especially in developing countries, has led to significant changes in diet and lifestyle, contributing to the increase in cases of diabetes mellitus (Yunita, 2022). In terms of gender, respondents were dominated by women with 70.9% and men with 29.1%. Diabetes has a risk of occurring in both sexes.

3.2 Overview of Knowledge Before and After Intervention Using Edumiseki Video Media

Based on the table below, the average knowledge score of 55 respondents increased from 8.76 to 13.89, with the standard deviation decreasing from 2.036 to 0.737 and the score range from 4-12 to 12-15.

Table 2. Average Knowledge Overview

Knowledge Variable	N	Mean	SD	Min	Max
Pre-test	55	8.76	2.036	4	12
Post-test	55	13.89	0.737	12	15

*****Data processing source 2025*

3.3 The impact of EDUMISEKI video media on the knowledge of diabetes patients

Table 3. The Impact of EDUMISEKI Video Media On Knowledge Before and After

Knowledge Variable	N	Min-Max	Mean	Mean Difference	p-Value
Pre-test	55	4-12	8.76	5.13	0.00
Post-test	55	12-15	13.86		

**Data processing source 2025*

With a mean difference of 5.13, the following data indicates that knowledge increased before and after the intervention. The EDUMISEKI video media has an effect on increasing respondents' knowledge about diabetes mellitus and foot exercises, according to the Wilcoxon test results, which show a significant increase in respondents' knowledge score after the intervention (p value = 0.000).

This is also supported by Hermawati et al., 2020 regarding the influence of health education through audio-visual media on knowledge of implementing diabetes mellitus foot exercises. There were 16 respondents who showed data analysis using the Wilcoxon test showing that health education about foot exercises had a significant influence on increasing the implementation of diabetes mellitus foot exercises in patients with a p-Value of 0.00 ($p < 0.5$).

Notoatmodjo (2011) asserts that this is consistent with the findings of the study, which show that knowledge is acquired when an individual has experienced a specific object. The five human senses—sight, hearing, smell, taste, and touch—are used for sensing. The majority of human knowledge is acquired through the senses of sight and hearing. One of

the most crucial domain elements in the construction of an individual's actions is knowledge (Notoatmodjo, 2011).

The audiovisual method has a fairly high level of effectiveness, according to research, an average of above 60% to 80% to increase knowledge. Audiovisual methods in health education include sound, images and writing to clarify the message contained and audiovisual methods also involve thinking, hearing, seeing, psychomotor movements and make the atmosphere more enjoyable and interesting. Audiovisual images can facilitate understanding and improve memory (Vivit, 2023).

CONCLUSION

The results of the study on the effect of EDUMISEKI video media (Diabetes Education and Foot Exercise) on increasing the knowledge of diabetes mellitus patients in the Simpang IV Sipin Health Center work area concluded that most of the respondents in this study were women, namely 39 people (70.9%). Most of them were over 60 years old, namely 38 people (69.1%). Before the intervention using EDUMISEKI video media was 8.76%, after receiving the intervention it became 13.89%.

Furthermore, it can be inferred from data analysis and discussion that EDUMISEKI video media significantly increases diabetes patients' knowledge of diabetes mellitus and foot activity in the Simpang IV Sipin Health Center work area. A p value of 0.000 was achieved for the data analysis results using the Wilcoxon test, and this was derived from an increase in the average pre-test and post-test scores with a mean difference of 5.13%. Diabetes foot exercises are being used to increase blood flow and prevent foot gangrene issues. As part of this program, stakeholders are encouraged to participate from a wider range of sectors to assure the activity's sustainability and growth.

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