

# Influence of Health Education on Level Knowledge Diets Patients Diabetes Mellitus

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## ABSTRACT

**Background:** Diabetes is a disease that is chronic and progressive, and this disease can lead to many complications if glucose levels in the blood are not controlled. Now, there are many patients with diabetes mellitus (DM) who were still eating fast foods that contain lots of calories and low in fiber so it can cause many complications, even some patients with DM who ends with amputation, and even death.

**Methods:** This study design using the “pre-experimental design with one group pre-posttest design” in which a group of individuals was observed before the intervention and then observed again after the intervention, and the population of this study are patients with DM in space interna (ZAL C) Hospital Pamekasan as many as 10 patients using consecutive sampling, data collection using the questionnaire.

**Results:** Results of this study were taken using statistical test of Wilcoxon test with significant level of  $P = 0.008 (<0.05)$ , which means that  $H_0$  is rejected and  $H_1$  accepted that there effect of health education against DM knowledge level about diets in space interna (ZAL C) Hospital Dr. Slamet Martodirjo Pamekasan.

**Conclusions:** Seeing these results, it is necessary to further improve the health workers more health education to improve patient knowledge and monitor the progress of patients after discharge from the hospital to control the patient’s blood sugar levels that remain normal.

**Key words:** Diabetes mellitus, Diets, Knowledge

## INTRODUCTION

Health education is the application or application of education in the health field. Operational health education is all activities to provide and improve the knowledge, attitude, and practice of individuals, groups, or communities in maintaining and improving their own health.<sup>1</sup> Health education is very important for people with diabetes mellitus (DM) disease, especially about diets where diabetes is one of the diseases that cannot be cured but can be done some care not to get worse and not experiencing complications that can cause other health problems. Today, there are still many patients with DM who still eat fast foods that contain lots of calories and low in fiber so it can cause many complications, not even a few patients with DM who end with amputation and even death.<sup>2</sup>

Based on the calculations of the International Diabetes Federation and the World Health Organization (WHO), there are at least 177 million people worldwide who suffer from DM, about 80% of them are in developing countries. The WHO estimates that by 2025, people with DM will increase to 300 million if not treated immediately.<sup>3</sup> In Indonesia, DM disease ranks fourth with the largest number of diabetics in the world after India, China, and the United States. With a prevalence of 8.6% of the total population, it is estimated that in 2001, there were 4.5 million diabetics, and by 2025, it is estimated to increase to 12.4 million sufferers. Meanwhile, the number of diabetic patients, i.e. inpatient and outpatient in the hospital ranks first of all endocrine diseases.<sup>4</sup> Based on the current population growth and the prevalence of DM 4.6%, it is estimated that 8.2 million out of 178 people over 20 years have diabetes.<sup>5</sup> The number

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of people with DM in Surabaya and East Java Municipality is very large, in Surabaya Municipality which is estimated; there are at least 30,000 people with DM while in East Java with a population of 33 million there are at least 300,000 people with DM.<sup>6</sup> While data obtained by researchers from preliminary study at internal room (ZAL C) Pamekasan Hospital, the number of DM patients treated at internal room from January to November 2011 was 113 patients with an average of 10 patients each month with DM patients.

From a recent study by medical experts, a new theory suggests that DM is not only caused by genetic factors but is also influenced by several other complex, multifaceted factors, including living and environmental habits. People whose bodies carry the diabetes gene will not suffer from diabetes, as there are other factors that can cause this disease in people, such as excessive eating/fatigue, lack of movement or infrequent exercise, and pregnancy. Diabetes is one of the chronic and progressive diseases. This disease can cause many complications if the blood glucose levels are not controlled where uncontrolled diabetes will affect the occurrence of several complications such as heart disease, hypertension, retinopathy, and diabetic gangrene that ended in amputation. To prevent complications that can occur due to DM, the blood sugar levels should be kept within the normal range; one way is to regulate the diets. A DM patient needs the correct information related to the diets that should be executed to keep his blood sugar levels normal.<sup>7</sup> Based on this, it is necessary to provide education or counseling in the form of information about the patient's DM. To be able to prevent further complications in patients with DM, where the diets in patients with DM is one effort to control blood sugar levels that serves to keep blood sugar levels in diabetic patients remain stable or within the normal range. Therefore, the level of knowledge diets in DM patients is very influential to maintain the stability of blood sugar in patients with DM.<sup>8</sup> The purpose of the study was to determine the effect of health education on the level of knowledge of DM patients about diets.

## METHODS

The protocol was approved by the Local Ethics Committee and written informed consent was obtained from each patient. The design of this study used "pre-experimental with one group design pre-test post-test design" in which the patient's group was observed before intervention, then observed again after the intervention.<sup>9</sup> Population of this research is patient of DM in internal room (ZAL C) Hospital Dr. Slamet Martodirjo Pamekasan as many as 10 patients. This research uses consecutive sampling technique. This study was analyzed. To determine, the effect of health education on the level of knowledge of DM patients about the diets is done by statistical test using Wilcoxon test with a significance level of 0.05.

## RESULTS

Based on Table 1, it can be explained that the patient's knowledge of the diets before the given health education is largely enough for 6 patients (60%) and from the results after treatment most of the patient's knowledge about the diets is good as much as 6 patients (60%). Based on the results of statistical tests, Wilcoxon test found that  $P = 0.008$  and  $\alpha = 0.05$  then means  $P < \alpha$  which means  $H_0$  rejected and  $H_1$  accepted which means there influence of health education

**Table 1:** Cross tabulation the influence of health education on the level of knowledge of diabetes mellitus patients about the diets before and after being given health education

Knowledge before treatment	Knowledge after treatment			Total
	Less	Simply	Good	
	F (%)	F (%)	F (%)	F (%)
Less	0 (0)	1 (10)	0 (0)	1 (10)
Simply	0 (0)	0 (0)	6 (60)	6 (60)
Good	0 (0)	0 (0)	3 (30)	3 (30)
Total	0 (0)	1 (10)	9 (90)	10 (100)
Nilai Signifikan	$P=0.008$		$\alpha=0.05$	

against knowledge level of DM patients about diets in internal room (ZAL C) RSUD Dr. Slamet Martodirjo Pamekasan.

## DISCUSSION

The results of our study it can be explained that the patient's knowledge of the diets before the given health education is largely sufficient for 6 patients (60%) and outcomes after treatment most of the patient's knowledge of diets is as good as 6 patients (60%) and that half patient of DM internal room (ZAL C) Hospital Dr. Slamet Martodirjo Pamekasan has 41-50 years of age as many as 5 patients (50%) and that most patients have junior high school education of 6 patients (60%) and most patients get information from health, family, and electronic and print media of 6 patients (60%) and a small number never get information as much as 1 patient (10%). Based on the results of statistical tests, Wilcoxon test found that  $P = 0.008$  and  $\alpha = 0.05$  then means  $P < \alpha$  which means  $H_0$  rejected and stated there is influence influence health education to the level of knowledge of DM patients about diets in internal room (ZAL C) RSUD Dr. Slamet Martodirjo Pamekasan. In accordance with the opinion Notoatmodjo,<sup>1</sup> knowledge is the result of know and this happens after people do the sensing of an object. Notoatmodjo also argues that the cause of high knowledge one of them is education. Health education is all activities to provide and enhance the knowledge, attitude, and practice of individuals, groups, or communities in maintaining and improving their own health. Health education motivates a person to receive health information and do according to the information so that they become more knowledgeable and healthier. Educational factors are very influential on knowledge; education means the guidance given by a person on the development of others towards a certain aspiration. Hence, it can be said that education leads people to do and fill lives to achieve salvation and happiness. Education is required.

The cause of most patients DM internal room (ZAL C) Hospital Dr. Slamet Martodirjo Pamekasan is knowledgeable both before and after being given health education because the patient gets health education in the form of counseling and information from researcher as well as from health officer and family and from electronic media and print media in the form of leaflet given by the researcher to patient about diets where after given patient health education is more familiar with and understood the problem of diets than before given health education. Hence, with the education and information and counseling about the diets; patient knowledge is expected to increase because of the problem diets very influential to maintain the stability of blood sugar in patients with DM.

## CONCLUSION

Most of the patients are DM internal room (ZAL C) Dr. Slamet Martodirjo Pamekasan before treatment knowledge enough as many as 6 patients (60%) of 10 patients. Most of the patients are DM Internal Room (ZAL C) Dr. Slamet Martodirjo Pamekasan after good treatment of 9 patients (90%) from 10 patients. There is an influence of health education on the level of knowledge of DM patients about diets in internal room (ZAL C) Dr. Slamet Martodirjo Pamekasan.

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