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I'M GOING TO PUMP YOU UP. – LOVE, YOUR HEART

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ABSTRACT

Ischemic heart disease (IHD) occurs due to the narrowing of heart arteries by plaque that provide blood to the heart muscle causing heart problems. This study was conducted to determine the significant factors that affect the presence of IHD and to classify the individual according to negative IHD and positive IHD. Discriminant analysis was used with independent variable age, BMI, medical family history, systolic blood pressure, diastolic blood pressure, smoking status and diabetes mellitus. This research was performed in hospital with respondents that have been doing the medical checkup at Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan. The result of this study revealed that the variables in this study which are family medical history, systolic blood pressure and diabetes mellitus can be used to predict the presence of IHD.

Keywords: ischemic heart disease, cardiovascular diseases, discriminant analysis

1. INTRODUCTION

Ischemic heart disease (IHD) is insufficient blood supply to a part of the heart due to the blockage of arterial blood inflow [1]. The major factors of IHD are age, gender, history of IHD and diabetes [2]. Main symptoms of IHD are chest pain (angina), heart attack and heart failure [3].

2. METHOD

Discriminant analysis is a statistical analysis that focuses on the relationship between multiple independent variables and a categorical dependent variable by forming a combination of the independent variables [4]. Categorical independent variable also can be use which involve dummy coding for that variables [5].

3. MATERIAL

The data that were being used in this study were secondary data which were taken from independent study that was conducted at Hospital TuankuJa'afar, Seremban, Negeri Sembilan (HTJ). This hospital was chosen because it gave the permission to retrieve data needed for this study. The data were obtained from 113 samples and consisted of 10 variables.

4. RESULTS AND DISCUSSIONS

Table 1 shows that the variable family medical history, systolic blood pressure and diabetesmellitus significantly influences the presence of IHD. While variable age, BMI, diastolic blood pressure and smoking do not significantly influence the presence of IHD.

Based on Table 2, 73.6% of the cases are classified correctly hence it considers as a good classification accuracy.

Table 1. Tests of Equality of Group Means

Table 4.5: Tests of Equality of Group Means

Variable	Wilk's Lambda	Sig.
Age	0.975	0.083
BMI	0.981	0.147
Family Medical History	0.939	0.009
Systolic Blood Pressure	0.954	0.025
Diastolic Blood Pressure	0.999	0.715
Diabetes Mellitus	0.939	0.009
Smoking	1.000	0.872

Table 2. Classification Results

Table 4.10: Classification Results

Ischemic Heart Disease			Predicted Group Membership		Total
			0	1	
Original	Count	0	41	18	59
		1	11	40	51
	%	0	69.5	30.5	100.00
		1	21.6	78.4	100.00

73.6% of original grouped cases correctly classified

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