



Unhealthy Behavior Related to the Risk Factors of Cardiovascular Diseases

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Abstract

In Indonesia, the prevalence of non-communicable diseases is increasing as the cause of death, especially heart disease. This mortality rate is predicted to continue to increase in line with lifestyle changes, so that behavioral prevention is important. The aim of research is to study the behavior of male employees on the prevention of cardiovascular disease. Cross sectional study design, with correlation analysis, samples from male employees amounted to 96 respondents in Health Education Institutions South Jakarta, Indonesia. Overview predisposing factors: age < 45 years (53.3%), non-health education 80.4%, less knowledge about cardiovascular disease, smoking, obesity, hypertension, diabetes, hypercholesterolemia; enabling factors (institutional support) and the reinforcing factors (family support) is still lacking, as well as 28.3% do not take precautions. Chi Square test results there is no relationship of smoking ($p = 0.006$), obesity ($p = 0.027$), hypertension ($p = 0.03$), with behavioral prevention of cardiovascular disease. Test multiple logistic regression analysis showed smoke accompanied by obesity less likely to take precautions ($p = 0.043$; OR 10.415). Conclusion: A male employee at the South Jakarta Health Educational Institution who smoke and accompanied by obesity prevention of cardiovascular disease. Suggestion: it is necessary behavioral interventions for the prevention of cardiovascular disease in male employee that smoking and obesity in Jakarta Health Education Institution.

Keywords: unhealthy; behavior; risk factor.

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1. Introduction

The heart and blood vessel disease or cardiovascular disease tends to increase as the cause of death, in about 40% of the cause of death of men of middle age¹. In fact, the proportion is highest cause of death among non-communicable diseases (NCDs) is a cardiovascular disease by 39%, followed by cancers 27%, chronic respiratory, gastrointestinal and other non-communicable diseases 30%, and 4% diabetes². The death rate from coronary heart disease will increase 137% in male, while the prevalence of obesity in 48% civil servants in Health Ministry [3] and hypertension in obese males 50.1%[4]. More than 3 million of these deaths occur before the age of 60 years and should be prevented. Cardiovascular disease risk factors can not be changed is the gender, age, family history while that can be changed is to change behaviors such as smoking, diabetes mellitus, hypertension, hypertension, dyslipidemia, Hyperuricaemia, obesity, elevated cholesterol and LDL, as well as lack of physical activity [5]. Other sources state that remains high prevalence of risk factors: smoking almost unchanged (20.3%, 21.2% and 18.2%), obesity (body mass index <30) increased 25% to 32.6% and 38 % [6] and uncontrolled blood pressure (> 140/90 mmHg) changed very little 58.3% [6] and 60.9% [7].

The degree of a person's health would be better if they did since the beginning of disease prevention. Prevention of disease can be carried by healthy behaviors such as increased knowledge, diet, activity and rest, reducing stress, regular screening, case finding, provision of facilities, equipment, regular treatment and family support, social or health workers, rehabilitation and medical emergencies are adequate [5].

South Jakarta Health Education Institutions routinely carry Medical check up for all employees, but the results of medical check has not been followed up with counseling programs for prevention, especially for those at risk of heart and blood vessel disease. Even the last two years two (2) male employee died from heart disease. The aims of research to study the behavior of male employees on the prevention of cardiovascular disease.

2. Research Method

This cross-sectional study design, case study approach in Health Educational Institutions in South Jakarta. Samples from male employees amounted to 96 respondents (purposive sampling). Assessment of predisposing factors is done by marking the statement and take measurements, to age (<45 years or > 45 years), education (health or non-health), knowledge about risk factors for heart disease, either if \geq median (score 71), while using a measurement that is obesity when BMI > 25, No, When BMI < 25; Hypertension is systolic > 140 mmHg Diastole > 90, Diabetes mellitus if the fasting blood sugar levels > 126 mg / dl, Hypercholesterolemia, if total cholesterol > 200mg / dl.

Furthermore, to factor Enabling the form of support given institution related to the prevention of heart disease, informing the results of Medical Check Up, facilitating sports activities, provide health education related to heart disease, There is support if \geq median (score of 80) and for reinforcing factors that support by the families associated with the prevention of heart disease would be to praise health during this time, awaken to exercise / aware not to smoke, which brings to medical examination and treatment, facilitate the implementation of diet, There is support if \geq median (score 80).for the dependent variable is the prevention behaviors related behavior

during the respondents' statements about implementation of the diet is to avoid fatty foods, alcohol, coffee; regular sports activities and cope with stress, skinning, early detection and treatment / fasting regularly assessed by the proportion ($> 85\%$ = good).

3. Results and analysis

In this section will explain the results of research and discussion. From the results of the univariate analysis overview predisposing factors: age < 45 years (53.3%), educational background non-health 80.4%, less knowledge about cardiovascular disease 47.8%, smoking 43.5%, obesity 45.7%, hypertension 28.3%, diabetes, 10.9%, hypercholesterolemia 60.9%; enabling factors (institutional support) and the reinforcing factors (family support) 39.1 %, and 23.9%, is still lacking, as well as 28.3% do not take precautions.

Behavioral factors in the prevention of cardiovascular disease is one determinant indicator in improved healthcare. A person's behavior is determined by three factors: predisposing factors that are a basis for action. [8]. Age is one of support of cardiovascular disease. It consistent with the results of research in which mostly occurs at age ≥ 55 years (69%), but age showed no association with CHD events $p = 0.186$ [9].

The results of this study indicate that the male employee in South Jakarta Health Educational Institution has as many cardiovascular disease risk factors. In this study, 28.3% of respondents still do not implement prevention. cardiovascular disease, but they are respondents who had risk factors including cardiovascular disease, other studies the same as many as 16.9% of patients do not take precautions [10].

Prevention efforts are intimately associated with knowledge, a positive attitude [11]. Health promotion is one of the efforts in preventive medicine by increasing knowledge, attitude and compliance $p < 0.05$ [12]. Someone perform preventive behavior is influenced by a number of reasons, other studies state that they do preventive behavior for fear of heart disease and want to live a healthier shown by not smoking, diet and exercise [13], as well as their social and family support [14].

Relations with the behavior factors of respondents fully Cardiovascular disease prevention can be seen from the chi-square test results in Table 1.

This study showed no association with the risk factors of cardiovascular disease prevention behaviors that smoking ($p = 0.006$, OR 2.625); obesity ($p = 0.027$, OR 0.106); Hypertension ($p = 0.035$, OR 0.675), it is similar to research that indicates a link risk factors for coronary heart disease events in patients with DM ($p=0.043$), hypertension $p = 0.007$, hyperlipidemia $p = 0.000$, obesity $p = 0.023$, smoking $p = 0.000$ [16].

A multivariate analysis was conducted to determine the relationship several independent variables that cardiovascular disease risk factors: smoking, obesity, hypertension, diabetes and hiperkolestelemlia with the dependent variable is the behavior prevention. All independent variables included in the model candidate, because in theory support for the occurrence of cardiovascular disease. Modeling results are shown in Table 2.

The results from this study that the dominant behavior significantly related to the prevention of cardiovascular

disease are smoking that accompanied obesity ($p = 0.043$, OR 10.415). In the sense that a smoker who accompanied obesity less likely to take precautions, 415 times that of nonsmokers. Less prevention in smokers closely related to the possible impact of nicotine addiction, which can activate the dopamine reward pathway in the brain, which encourages a person to continue smoking [16].

Table 1: Distribution of respondents according to behavioral factors and prevention of cardiovascular disease
n=96

Variable	Prevention		OR 95% CI	value p
	Good %	Bad %		
Behavioral factors				
Age				
< 45 years old	80,0	20,0	0,941	
≥ 45 years old	81,0	19,0	0,217 – 4,074	1,000
Educational background				
Health education	88,9	11,1	1,217	1,000
Non health education	78,4	21,6	0,262 – 5,661	
Knowledge				
good	87,5	12,5	2,625	
bad	72,7	27,3	0,568 – 12,134	0,276
Smoke				
No	96,2	3,8	16,667	
Yes	60,0	20,0	1,866 – 48,897	0,006
Obesity				
No	68,0	32,0	0,106	0,027
Yes	95,2	4,8	0,012 – 0,937	
Hipertension				
No	78,8	21,2	0,113	0,035
Yes	84,6	15,4	0,013 – 0,974	
Diabetes Mellitus				
No	80,5	19,5	1,031	1,000
Yes	80,0	20,0	0,101 – 10,530	
Hiperkolesterolemia				
No	72,2	27,8	0,433	0,284
Yes	85,7	14,3	0,099 – 1,900	
Enablings Factor (institusional support)				
have	78,6	21,4	0,733	
don't have	83,3	16,7	0,158 – 3,398	1,000
Reinforcing factors (family support)				
have	82,9	17,1	1,812	0,664
don't have	72,7	37,3	0,369 – 8,903	

Table 2: Model final multiple logistic regression analysis for the behavior of cardiovascular disease prevention

MODEL	B	SE	P WALD	Df	SIGN	EXP B	95% CI	
							Lower	Uper
Prevention behaviors								
smoking	2,343	1,160	4,079	1	0,043	10,415	1,866	48,89
Obesity	-1,425	1,193	1.428	1	0,232	0,240	0,012	0,937
Constants	-3,430	2.809	1,491	1	0,222	0,032		

Obesity is measured by body mass index ≥ 25 kg / m² can be defined as an excess amount of body fat 19% in males. These events are often found together with hypertension, diabetes, hyper-triglyceridemia, cholesterol levels increased, while high cholesterol blood can trigger degenerative diseases such as coronary heart disease [21], other illnesses by stroke [22] is no relationship between hypertension stroke [23]. Weight loss is expected to lower blood pressure, improve insulin sensitivity, glucose combustion and lowers dyslipidemia, it is reached by way of reduced caloric intake and increase physical activity. Cardiovascular disease risk factors may be the modified by applying clean and healthy behaviors, among other activities, a balanced diet, it can be done if supported if the family and the surrounding community [18]. Primary treatments and interventions showed improvements on blood pressure, the concentration of HDL – cholesterol [19], so that factors that can be changed proven effect on the incidence of CHD are cigarette smoking (p = 0.028; OR = 2.3; 95% CI = 1.1 to 5.0), namely in the age group <45 years[20]. Someone will behave prevention is closely connected with the attitude, where attitude is a readiness or willingness to act or behave [8]. Forming attitude intact knowledge plays an important role [24].

4. Conclusion

In the behavior of male employees on the prevention of cardiovascular disease in South Jakarta Health Educational Institution has as many cardiovascular disease risk factors:, as well as 28.3% do not take precautions. male employees who smoke accompanied obesity likely less to do prevention, 415 times compared with non-smokers (p = 0.043, OR 10.415). Another thing that is a deadly disease Prevention of cardiovascular risk of male employees is important to get better attention.

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