

# The consumption pattern, Lifestyle and Hypertension on Fishermen Community

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## Abstract.

Hypertension is in the first rank of tenth major diseases at inpatient and outpatient health center at regency/city of Riau Island Province. This research was conducted in Bintan regency and the majority of population are fishermen. This was a unmatched case control study. Subject of this study were hypertensive fishermen which taken from medical records of two health centers with consecutive sampling technique, comprising 137 cases (hypertensive fishermen) and 137 controls (non hypertensive fishermen). The results showed there was significant association between consumption of natrium, potassium, coffee and smooking as risk factors for the prevalence of hypertension among fishermen. Fishermen tend to have unhealthy consumption pattern and lifestyle. Generally they consume instant foods/drinks, insufficient sleep specially at night, are smokers and drink alcohol while in the sea or on shore. Therefore Informal education in the health is very important to change unhealthy lifestyle in the Fishermen Community

**Keywords:** *consumption pattern, lifestyle, hypertension, fishermen.*

## 1 Introduction

Hypertension, also known as high or raised blood pressure, is a global public health issue. It contributes to the burden of heart disease, stroke and kidney failure and premature mortality and disability. It disproportionately affects populations in low- and middle-income countries where health systems are weak. Addressing behavioural risk factors, e.g. unhealthy diet, harmful use of alcohol and physical inactivity, can prevent hypertension. Tobacco use increases the risk of complications of hypertension. If no action is taken to reduce exposure to these factors, cardiovascular disease incidence, including hypertension, will increase (WHO, 2013). Hypertension is also the highest diseases in coastal areas. One of the provinces in Indonesia, the most extensive coastal villages (84,70% or 299 villages) and regions oceans (98%) are Riau Islands Province. In 2014 at Riau Islands Province have 8.86% of poor households. And from 7 districts are 5 districts have unhealthy lifestyle behaviors below 50% and the whole district is >70% of the population is a fisherman's household (SLHD Kepri, 2014 and BPS 2014). Poverty is a cycle of social and economic events that always occur in the household fishing (Kusnadi, 2008). Of unhealthy lifestyle this can lead to an increase in blood pressure (hypertension). Fishermen has diagnosed with hypertension will decrease productivity and increase psychosocial stress. The Low productivity of fisherman cause of the fisherman household income can reduced, then the effect on household spending. The low incomes of fishermen difficult to the basic needs food and non-food basic needs such as education and health. This condition will influence to nutritional status of families of fishermen, Low access to health facilities of fisherman communities also influence this condition because they do not know for sure their health (Purwanti, 2008).

Through this study, researchers will find factors have most influence to hypertension of fisherman community. There are several risk factors of hypertension, namely: 1) Age, primary hypertension generally occurs at age 25-45 years and only 20% are under the age of 20 years and above 50 years. This is due to the productive age less attention to health and healthy lifestyles (Dhianingtyas and Hendrati, 2006); 2) Gender, at the age of men more hypertension over 65 years of age, while more women (Depkes RI, 2006); 3) Heredity, family history of hypertension had 9.5 times the risk (Miswar, 2004); 4) Physical activity, patients with primary hypertension with less physical activity have a risk 5.37 times the risk (Widada, 2008); 5) Smoking, people who smoke have a risk of 3.40 times greater risk of hypertension compared with those who do not smoke; 6) Consumption of salt, people who consume salt > 5 grams per day will increase the risk of essential hypertension 9.8 times compared with those who consume salt <5 grams per day; 7) Consumption of dietary fiber, high protein diet and

high in soluble fiber can lower blood pressure in hypertensive patients (Burke et al, 2001; Miura et al, 2004); 8) consumption of coffee, people who drink coffee every day more than once at risk of hypertension 4.52 times greater than those who rarely drink coffee; 9) Consumption of alcohol, consumption of alcohol harmful to health because it can increase catecholamine synthesis, can trigger a rise in blood pressure (Purwati et al, 2000); 10) Psychosocial stress, the stress had 8.6 times the risk for hypertension compared with those who do not stress.

## **2 Methodology**

This study is an observational analytic study using case control study without matching. Case control study design is the design of epidemiological studies that studied the relationship between the effects of (a disease or condition) with certain specific risk factors. Selection of subjects based on disease status, then observed whether the subjects had a history of exposure to risk factors or not (Sastroasmoro and Ismael, 2008). This study conducted in the sub-district of East Bintan and Gunung Kijang of Bintan regency of Riau Islands Province. These two districts have the highest fisherman households in Bintan regency. Population of study was all fishermen who are in the research area. Subjects were fishermen who meet the criteria for cases and controls. Criteria case is fisherman, male, age > 18 years, diagnosed with primary hypertension and disease other than hypertension, good communication skills, literacy, willing to participated. Control criteria is the same as the criteria of the case but did not suffer from other diseases.

## **3 Results**

### **3.1 Characteristics of fishermen**

Based on univariate analysis of categorical data and can be described numerically the frequency distribution characteristics of research subjects. The number of research subjects is 274 people consisting of 137 cases (fishermen who suffer from hypertension and 137 controls (fishermen who do not suffer from hypertension). Independent variables showed that 51.5% of 41-60 years old of fisherman with a proportion of the cases more than the control group and 48.5% of age group 18-40 years old. It shows that age influenced created of hypertension. Department of Health Report of Riau Island Province in 2008 Also Showed that the prevalence of hypertension Riau province above the national prevalence (31.7%) is 74.6% for age > 64 years old. High consumption of sodium in fishermen because often consume foods preserved (> 5 times per week) such as salted fish, noodles, sardines, tomato sauce, soy sauce, shrimp paste and others. Prevalence of people consume of the risk food in Riau Islands province is 25.2% salty foods, preserved foods 10.3%, 43.2% caffeinated food and 79.4% of spicy food flavors.

Most of fishermen from childhood to adulthood get used to consumption of salty foods and use MSG (Mono Sodium Glutamate). MSG is a source of high sodium in food flavors. Proportion of fishermen Bintan regency by consumption of coffee are higher in the case group (72.3%) compared to the control group (41.6%). This is because in addition to coffee fishermen also consume other sources of caffeine such as tea, energy drinks and soft drinks when at sea. The results showed that the number of fishermen who consume fiber and fruits are very less in the case group (50.4%) compared to the control group (42.3%). Prices of vegetables and fruits in the coastal region is relatively expensive. Bintan regency soil conditions with a high content bouksit less suitable for cultivation. Then the number of fishermen higher alcohol consumption in the control group compared to the group of cases. Fishermen consume alcohol only when sailing alone. But the proportion of smoking is higher in the case group (89.8%) compared to the control group (73.7%). The high proportion of smoking because it aims to eliminated sleepiness while sailing, cold weather as well as a sense of stress when the catch is low.

## **3.2 Relationship of consumption patterns and lifestyles with hypertension of fishermen**

### **3.2.1 Relationship of Consumption Natrium and Potassium with Hypertension of fishermen**

The results of the bivariate analysis between natrium (Na) consumption variables with hypertension showed a significant relationship with OR of 2.622 with 95% CI = 1.494 to 4.600 and *p value* of 0.001. It can concluded that the fishermen who consume more natrium will increase the risk of hypertension was 2.6 times greater. The results of the bivariate analysis between potassium (K) consumption variables with hypertension showed a significant relationship with OR of 2.622 with 95% CI = 1.494 to 4.600 and *p value* of 0.001. It can concluded that the fishermen who consume more potassium will increase the risk of hypertension was 2.6 times greater.

### **3.2.2 Relationship of Coffee Consumption with Hypertension of fishermen**

The results of the bivariate analysis between coffee consumption variables with hypertension showed a significant relationship with OR of 2.512 with 95% CI = 2.206 to 6.060 and *p value* of 0.000. It can concluded that the fishermen who consume coffee will increase the risk of hypertension by 3.6 times greater than the fishermen who do not consume coffee. When at sea, fishermen uncontrolled drinking coffee with the aim to fight the cold or hot, sleepy and tired.

### **3.2.3 Relationship of Smooking with Hypertension of fishermen**

The results of the bivariate analysis between smooking variables with hypertension showed a significant relationship with OR of 3.132 with 95% CI = 1.601 to 6.126 and *p value* of 0.001. This means is fishermen who have the habit of smooking will increase the risk of hypertension by 3.1 times greater than the fishermen who do not smoke.

### **3.2.4 Relationship of dietary fiber consumption with Hypertension of fishermen**

The results of the bivariate analysis between dietary fiber variables with hypertension showed not significant relationship with OR of 1.382 with 95% CI = 0.858 to 2.226 and *p value* of 0.183. These results show that there is no relationship between dietary fiber consumption with hypertension. Fishermen do not have the habit of eating dietary fiber and fruits because the price is expensive. Report of the Health office of Riau Islands Province in 2008 that there were 98% of this region population is still low-level of consumption of vegetables and fruits. In Bintan regency only 2.8% of the population aged 10 years and over who consume enough vegetables and fruits.

### **3.2.5 Relationship of alcohol consumption with Hypertension of fishermen**

The results of the bivariate analysis between alcohol variables with hypertension showed not significant relationship with OR of 1.092 with 95% CI = 0.679 to 1.757 and *p value* of 0.716. These results show that there is no relationship between alcohol consumption with hypertension. The results showed that the fishermen do not always consume alcohol except at sea is less than 2 cups per day at sea.

### **3.2.6 Relationship of Psychosocial stress with Hypertension of fishermen**

The results of the bivariate analysis between psychosocial stress variables with hypertension showed not significant relationship with OR of 1.173 with 95% CI = 0.536 to 2.568 and *p value* of 0.690. No significant relationship between psychosocial stress and hypertension because fishermen are in a normal psychosocial conditions or do not have a big problem. Fishermen can adapt to changes in environmental factors and is able to face with competition among people in looking for livelihood.

## 4 Conclusion

The factors that a significant relationship to hypertension of fishermen communities is coffee consumption, sodium consumption, potassium consumption, smoking lifestyle and age. Health problems significant relationship with poverty. For anticipate and resolve of the fishing community problem need to cross-sectoral co-operation both formal and informal organizations.

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