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HEALTHY DIET ANALYSIS AS AN INDICATOR OF HEALTHY ISLAND ON BARRANG CADDI ISLAND

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Abstract--- *Indonesia is an archipelago with 17,504 islands ranged from Sabang to Merauke and becomes one of the countries with the largest span of the archipelago in the world. The implementation of healthy island indicators has not been carried out yet because it still follows the Healthy Regency/City administration system in Indonesia. Okinawa island in Japan which is known as the world's healthiest island has some indicators such as a healthy diet, social condition, and healthy diet consumption. This study is descriptive quantitative. The population of the study was 351 households living on the Barang Caddi island in Makassar, South Sulawesi Province. While the sample amounted to 153 persons. The data were collected using a questionnaire and analyzed in SPSS version 20. The chi-square test result showed no association was pronounced between the healthy diet and the healthy island (p=0.297). The majority of respondents claimed that the healthy diet for the island community was relatively low because they believed that high dietary intake is balanced with high activity levels. The food consumption of island community was also relatively simple as they rarely consume junk food or any type of fast food and rather process their own food either seafood or harvested food from their own yard such as Moringa oleifer leaves. It is recommended to the government of South Sulawesi and especially to agencies that deal with the island communities, especially remote islands that have difficult access, need to do a more comprehensive study, assessment, and application of appropriate indicators used for healthy islands in South Sulawesi.*

Keywords--- *Indicator of Healthy Island, SPSS, Health Diet.*

I. INTRODUCTION

Indonesia is an archipelago [1-4]. There are 17.504 islands registered in the sovereign territory of the Unitary State of the Republic of Indonesia which ranging from Sabang to Merauke and make Indonesia one of the countries with the most islands in the world. As per the definition of the island by UNCLOS 1982 consist of several keywords, namely (1) land area, (2) naturally formed, (3) surrounded by water/ocean, (4) always above the surface at high tide, and (5) has the economic capacity to support its inhabitants [5].

An island is a setting developed by some WHO regions to overcome health problems, physical, and social problems of the island community[6, 7]. The development of healthy island and city shares the same principle, and the only difference is their setting characteristics [8, 9]. Numerous countries have developed healthy islands such as the Western Pacific Regional Countries [10]. Groups of countries included in this region are Fiji, Samoa, Papua New Guinea, Kiribati, Vanuatu, Solomon Islands, and Tuvalu. Generally, these countries have a small population with the characteristics of the archipelago. In addition to the Western Pacific Region, the concept of healthy islands has also been developed in several Southeast Asian countries.

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Furthermore, healthy islands and healthy cities are global movements in both developed and developing countries. This movement focuses on managing residential areas and public facilities and infrastructure, and healthy community life. The common challenges are health, communication, and development problems [11]. The challenges of implementing the healthy city, including the island as an administrative area of the city, are partnership challenges, understanding about health settings, and the problems of either the city or the island itself [12-14]. On a specific level, the challenges include an understanding about healthy cities for the Advisory Team, Healthy City Forum, Healthy Village Communication Forum, and Working Group; cross-sector collaboration, community participation, funding, capacity building, and lack of facilities and infrastructure [13, 15, 16]. In Indonesia, the indicators of the healthy island have not been comprehensively implemented because it still follows the Healthy Regency/City administration system in Indonesia, where the Healthy Cities indicator is set in the Decree of the Minister of Home Affairs and the Minister of Health No.34 of 2005 and No.1138 / Menkes / PB / IX / 2005.

Health problems are still being great concerns for the government. Public awareness of healthy life is still low. Furthermore, unequal and very low level of public health is true for people who live in slums and who live on the coast or remote islands. The behavior of people who are still unhygienic and the absence of environmental facilities and infrastructure have profoundly impacted public health. Various problems might occur due to community behavior and environmental conditions that do not pay attention to health [17]. A study about food consumption pattern in the island communities showed that their daily food intake consists of carbohydrate, animal-based protein, and plant-based protein [18].

The archipelago in Makassar can be seen along the coastline of Makassar City, which administratively are in the Sangkarrang district and these islands are Lanjukang Island, Langkai Island, Lumu-Lumu Island, Bone Tambung Island, Kodingareng Island, Barrang Lompo Island, Barrang Caddi Island, Kodingareng Keke Island, Samalona Island, Lae-Lae Island, Gusung Island, and Kayangan Island [19]. The Barrang Caddi Island is one of the most densely populated islands, with a population of 1263. The majority of the population works as traditional fishermen, this is reflected in the fishing equipment they use is still simple, such as fish traps, fishing rods, gillnets, and *lepa-lepa*. The protection of fishermen as one of the human resources is an important priority [20]

II. METHOD

This study is a quantitative study with a descriptive survey approach to analyze the healthy diet as an indicator of healthy island. This present study was carried out in Barrang Caddi Island Sangkarang Subdistrict, South Sulawesi Province, Indonesia, from January to April 2020. The population of the study was all inhabitants of the Barrang Caddi Island. Later, as many as 153 respondents were selected as the study respondents through a purposive sampling technique.

Data used in this study were both primary and secondary data. The primary data were collected through interviews using the questionnaire. While the secondary data were about the number of households living in Barrang Caddi Island which were retrieved from the Central Bureau of Statistics Sangkaran Subdistrict in 2019. The data were analyzed by a chi-square test and logistic regression test to identify indicators associated with the indicators of health island.

III. RESULTS

Characteristics of the Respondents

Table 1 shows that, of all 153 respondents, majority of the respondents were female amounted to 108 respondents (70.6%), most of the respondents were 30 – 39 years old (32.7%). Regarding the education level, majority of them were elementary school graduates as many as 115 respondents (75.2%) and mostly worked as household wives as many as 100 respondents (65.4%). Besides, 83 respondents (54.2%) had a normal BMI.

Table 1
Characteristics of The Respondents of The Healthy Island Indicators on Barrang Caddi Island

	Characteristics	Quantity (n)	Percentage (%)
a.	**Gender**		
	Males	45	29.4
	Females	108	70.6
b.	**Age group (years)**		
	<20-29	25	16.3
	30-39	50	32.7
	40-49	42	27.5
	50-59	28	18.3
	60+	8	5.2
c.	**Education**		
	No School	8	5.2
	Elementary School	115	75.2
	Junior High School	18	11.8
	Senior High School	10	6.5
	University graduate	2	1.3
d.	**Occupation**		
	Fishermen	53	34.6
	Household Wives	100	65.4
e.	**BMI Category**		
	Underweight	18	11.8
	Normal	83	54.2
	Overweight	52	34.0
	Total	**153**	**100.0**

Analysis of The Association between a Healthy Diet and Healthy Island Indicators in Barrang Caddi Island

Table 2
The Association between a Healthy Diet and Healthy Island Indicators in Barrang Caddi Island

Healthy Diet	Indicators of Healthy Island				Quantity		p
	Moderate		Less				
	n	%	n	%	N	%	
High	40	67.8	19	32.2	59	100.0	
Low	71	75.5	23	24.5	94	100.0	**0.297**
Total	**111**	**72.5**	**42**	**27.5**	**153**	**100.0**	

Table 2 shows that among 59 respondents with a high level of the healthy diet, 40 of them (67.8%) were in moderate assessment category and the other 19 respondents (32.2%) were in low assessment category of the healthy island indicators. Meanwhile, of 94 respondents with a low level of the healthy diet, 71 respondents (75.5%) were in moderate assessment category and the other 23 respondents (24.5%) were in low assessment category of the healthy island indicators.

The statistical test result showed a p-value = 0.297, since $p > \alpha = 0.297 > 0.05$ then we failed to reject Ho indicated no association was found between the healthy diet and healthy island indicators.

IV. DISCUSSION

It is known from the result of this present study that the healthy diet, which is one of the indicators of the healthy island as found on the healthiest island of Okinawa Island Japan, was not pronounced on Barrang Caddi Island. Based on the results of the interview with the health officer on this island, people living in Barang Caddi never suffer from overweight or obesity. This is possible because the activities of the island community are high, thus eating large portions or rarely eating fruit will not affect their weight because they also spend high energy every day such as making boats or fishing activities at sea. Besides, the food consumption of the island community is also relatively simple, they rarely consume junk food or fast food, but they process their own food whether it's seafood or vegetable yields such as moringa leaves which they plant in their own yard.

As per the data from the health center, in 2019 the top 10 diseases found in Barang Caddi community consisted of 287 cough cases, 190 dermatitis cases, 160 febris cases, 144 cases cephalgia, 96 hypertension cases, 90 ascariasis cases, 82 influenza cases, 73 vertigo cases, 69 diarrhea cases, and 50 rheumatism cases. Therefore, it can be concluded that obesity was not found on Cadang Caddi Island. Similarly, the respondent's characteristics also depicted that majority of the respondents had normal BMI. Thus, no association was found between the healthy diet and healthy island indicators in Barrang Caddi Island.

According to Dewi [21] healthy diet is a weight loss program for someone who is overweight. A healthy diet is one of the indicators for assessing a healthy island which includes

indicators on the Japanese island of Okinawa known as the healthiest island in the world because its people adopt a healthy diet consisting of seeds, fish, and vegetables, and added with a little meat, eggs, and milk.

Healthy eating patterns are best applied at breakfast and night. By cooking their own food, people are free to choose their own low-fat diet, in contrast to the habit of eating fast food or snacks which induce obesity quickly [22]. This type of healthy eating pattern has been implemented by the community on Barang Caddi Island without adherence to a special diet, their food is relatively safe because they rarely consume junk food or fast food and rather preparing their own food.

V. CONCLUSION

This present study concluded that no association is found between a healthy diet and the indicator of the healthy island as found in "Okinawa Island Japan". The indicators of the healthy diet on Okinawa Island Japan cannot be an indicator of the healthy island on Barrang Caddi Islands. Therefore, it is expected to the government to conduct a research to review and explore indicators of the healthy island and to determine the appropriate indicator for the healthy island in Indonesia, especially in South Sulawesi Province.

ETHICAL CLEARANCE:
Our study was not directly applied to human; hence ethical clearance was not required.

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