

Counseling and Education on Diet for Communities During the Covid-19 Pandemic in Banda Aceh

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ABSTRACT Counseling and education about Covid-19 to the public is important, especially the mode of transmission, clinical symptoms, severity of disease and prevention efforts as well as how to increase body immunity through healthy eating patterns and vaccinations. Dietary education to the public is a reference for daily nutritional needs and nutritional therapy for Covid-19 patients. In the case of Covid-19, there is an increase in energy requirements due to increased work of the respiratory muscles, fever, cough, and mechanical ventilation. The purpose of the study was to determine the relationship between knowledge, community behavior and eating patterns during the Covid-19 pandemic and to provide counseling on Covid-19 preventive efforts. Collecting data by non-probability sampling purposive technique from 15 to 30 September 2020 at 8 Integrated Posyandu in Banda Aceh, with a total sample of 664 respondents. The type of research is observational analytic cross sectional design. Assessment of knowledge and behavior with a validated questionnaire, eating patterns with the Food Frequency Questionnaire (FFQ) filled out by the respondent and guided by interview, the data collected were analyzed with the Spearman correlation statistical test. The results of the study were that the dominant age was over 60 years as many as 261 respondents (39.3%), the most gender was female 464 respondents (69.9%), housewife work was 252 people (38%), the most comorbid diseases were hypertension 235 people (35.4%), Diabetes mellitus 219 people (33%). Good knowledge about Covid-19 was 564 respondents (82.2%), correct behavior was 493 people (74.2%) and correct eating patterns were 400 respondents (74.2%). There is a relationship between knowledge and behavior (P value = 0.000, $r = 0.62$) and there is a relationship between knowledge and diet (P value = 0.039, $r = 0.41$). It was concluded that knowledge affects people's behavior and eating patterns during the Covid-19 pandemic.

Keywords: Counseling, Covid-19, Education, Diet, Knowledge, Pandemic.

PENDAHULUAN

Corona virus 2019 (Covid -19) is also called the severe acute respiratory syndrome corona virus (SARS-COV-2), the etiology is the novel corona virus Covid-19 which is the cause of global public health problems. The World Health Organization (WHO) on January 30, 2020 designated Covid-19 as a Public Health Emergency of International Concern (PHEIC), with a fairly rapid increase in the number of cases and spread throughout the world, the virus enters through protein S and then binds to the host cell receptor. in the form of ACE-2 enzymes in the mucosa of the mouth, nose, nasopharynx, lungs, stomach, small intestine and large intestine, liver, and kidneys, after the virus enters the RNA gene

changes, the viral genome reduces the anti-viral IFN response thereby increasing pro-inflammatory cytokines.¹ The inflammatory process results in impaired immunity which can worsen the condition of patients with confirmed COVID-19.² The critical condition of treated Covid-19 patients requires comprehensive management, one of which is nutritional management. Covid-19 patients in critical condition with severe stress will be at risk of severe malnutrition. A good evaluation from the start on malnutrition, the digestive tract and the risk of aspiration will determine the prognosis of Covid-19 patients.³ The nutritional protocol for Covid-19 is an important reference in meeting the patient's caloric needs, both macronutrients, micronutrients and fluids so that they can improve or enhance the body's immune system, anti-inflammatory, anti-oxidation and probiotics, so that a healing process will occur.⁴ Diagnosis of nutrition for Covid-19 patients is based on nutritional status, body weight, response to food intake, clinical symptoms, electrolytes, laboratory results and comorbidities.⁵

Caloric needs in Covid-19 patients where food intake becomes inadequate due to increased fat, protein catabolism, glucose intolerance, anorexia, metabolic disorders, dyspnea, and mechanical ventilation. Corona virus can attack the digestive tract, resulting in nausea, vomiting and gastrointestinal dysfunction which causes malabsorption of nutrients.^{4,5} Calculation of Energy Needs is based on the calculation of Energy Expenditure (BEE), namely nutritional status, clinical symptoms, results of investigations and hemodynamics and comorbidities.⁵ People under monitoring (ODP) and patients under surveillance (PDP) require energy of 30-35 kcal/kgBW/day. The energy needs of health workers are in accordance with the nutritional adequacy rate (AKG 2019) plus 10%. Nutrients for ODP and PDP are sources of carbohydrates 50%, protein 15% and fat 25-30% of total energy per day. Health workers

who treat PDP or confirmed Covid-19 patients need carbohydrates 55%, protein 15%, and fat 30% of total energy per day.⁶

Nutrient intake is an important thing that must be a concern for all parties because food will affect a person's health condition. Diet is a person's behavior to meet the nutritional needs needed by the body. The condition of the Covid -19 pandemic that has hit the whole world including Indonesia has an impact on human life, many efforts have been made in dealing with this pandemic such as maintaining distance, wearing masks, washing hands, maintaining personal and environmental hygiene and vaccination. Consuming healthy and nutritious food by maintaining a proper diet can boost the immune system.⁷

Consumption of a balanced, varied and nutritious diet including whole grains, nuts, fruits and vegetables and animal sources is an important way of boosting the immune system. To achieve this, it is necessary to provide counseling and education to the community, especially vulnerable groups so that all community groups can access nutritious food.⁸ Provide information related to nutritional needs to all levels of society at large through various multimedia channels. Dietary education includes aspects of the type of food, the frequency of eating and the amount of food that a person must consume according to their needs so that health can be optimal with good immunity so that disease will be avoided.⁹

METODE

This type of analytical research is observational with a cross sectional approach. The research was conducted at 8 integrated posyandu in Banda Aceh. Data collection from 15 to 30 September 2020. Ethical clearance number : 224/EA/FK-RSUDZA/2020.

The sample was taken using a non-probability sampling purposive technique, in which researchers rely on their own judgment when choosing members of the population to participate in their surveys, with a total sample of 664 respondents.

Respondents who come to the integrated posyandu is society from 8 integrated posyandu in Banda Aceh , age above 18 years until 65 years old, they can read and write the questionnaire and also accepted to be respondent in this research. The respondent will have their body temperature checked, wear a mask, sit in a

place that has been provided with a distance of 1.5 meters, blood pressure and blood sugar levels were checked at the time. Assessment of knowledge and behavior with a validated questionnaire, eating patterns with the Food Frequency Questionnaire (FFQ) filled out by the respondent and guided by interview, then counseling and education were given about behavior and nutrition during the Covid-19 pandemic.

The data collected were analyzed univariately and bivariately with the Spearman rank correlation statistical test.

HASIL DAN PEMBAHASAN

After collecting data for research, followed by counseling and education to respondents about behaviour and balance nutrition during the pandemic, especially for vulnerability group that's respondent with comorbid disease (diabetes mellitus, hypertension, tuberculosis, asthma, heart disease). Data on the characteristics of age, gender, education, occupation and sub-district respondents total of 664 people obtained from 8 in Banda Aceh, can be seen in table 1.

Table 1. Distribution of Frequency from Respondents Characteristics

Respondents Characteristics	Frequency n= 664	Percentage (%)
Age (year)		
< 20	32	4.8
20-30	59	8.9
31-40	63	9.5
41-50	90	13.6
51-60	159	23.9
> 60	261	39.3
Gender		
Male	200	30.1
Female	464	69.9
Education		
Low	63	9.5
Middle	315	47.4
High	286	43.1
Profession		
Housewife	252	38
Employee	212	31.9
Trader	64	9.6
Unemployment	136	20.5
Districts		
Kuta Alam	253	38.1
Ulee kareng	91	13.7
Syiah Kuala	232	34.9
Baiturrahman	12	1.8
Darul Imarah	6	0.9
Ingin Jaya	8	1.2
Darussalam	46	6.9

Meuraxa	16	2.4
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The results of table 1 show that the dominant age is the age range above 60 years, namely 261 people (39.3%), the majority of the sexes are women as many as 464 people (69.9%), the level of higher education is 286 people (43.1%), the occupation of housewives is 252 people (38%) and the dominant sub-district is Kuta Alam with 253 people (38.1%).

Tabel 2. Distribution of Frequency from Respondents with Comorbid Diseases

Comorbid Diseases	Frequency n= 664	Percentage (%)
Diabetes Mellitus	219	33
Hypertension	235	35.4
Tuberculosis	14	2.1
Asthma	4	0.6
Heart Disease	9	1.4
None	183	27.6

The results of table 2 show that the most common comorbid diseases suffered by the respondents were Hypertension 235 people (35.4%) and Diabetes Mellitus 219 people (33%).

Tabel 3. Distribution of Frequency from Knowledge, Behavior and Diet During the Covid-19 Pandemic

Variable	Frequency n= 664	Percentage (%)
Knowledge		
Good	546	82.2
Bad	118	17.8
Behavior		
Correct	493	74.2
Wrong	171	25.8
Dietary Habit		
Correct	400	60.24
Wrong	264	39.76

The results of table 3 show that knowledge about Covid-19 in the good category is 546 people (82.2%). Respondents who have behaved correctly during the Covid- 19 pandemic are 493 people (74.2%) and the correct eating pattern is 400 people (60.24%). The results of this study are in line with the research of Yanti B et al (2020) that

99% of Indonesian people have good knowledge, 59% positive attitude and good behaviour 93% in carrying out preventive efforts against Covid- 19 in Indonesia.¹⁰ This research is also in line with research by Nogi S (2021) in Aceh, it was found that the good knowledge of students about prevention efforts against Covid-19 was 58.7% with a positive attitude of 90.4%. that's mean someone with good knowledge will have good behaviour than someone with less knowledge.¹¹ In supported by research by Alzoubi at al (2020) in Jordan, it was stated that knowledge was related to efforts to prevent Covid-19.¹² how to wear a mask, cough etiquette and keep a distance. The public knows about the health protocols promoted by the government, this illustrates that the community is actively following the development of Covid-19 both through the role of social media and other information facilities such as counseling or education delivered in health services and in public facilities such as mosques, schools, terminals,

ports and others. The results of the study by Sausan S (2021) that the public received information on balanced nutrition intake and vaccination as a preventive measure against Covid-19 from the mass media and family or friends, namely 84%.¹³ According to Notoadmodjo, knowledge is the result of knowing after someone gets something from the process of seeing, hearing, tasting and touching. Knowledge will shape attitudes which will later be shown by actions or behavior. According to Mubarak, there are many factors that can affect a person's knowledge, namely experience, information and motivation.¹⁴ Health promotion and education plays a very important role in preventing Covid-19 efforts that can be done by the community and can change people's behavior that has generally not followed the recommendations set by the government. In the promotion and education of Covid-19 there are several things that are conveyed, such as everyone has a susceptibility factor for Covid-19 transmission, information on effective ways to prevent the transmission of Covid-19 and fosters confidence in that they are able to carry out these prevention efforts.¹⁵ Health promotion regarding Covid-19 is able to provide clear reasons to the public the importance of preventing the transmission of Covid-19 to reduce the incidence of Covid-19.¹⁶ One of the means of delivering education is counseling and mass media, the information provided certainly has a high level of relevance to the WHO update, so that the role of mass

media health workers in providing promotions and education has a significant impact in reducing Covid-19 cases.⁹

The results of this study showed that 400 people had the right diet (64.24%) while 39.76% had the wrong diet. These results are in line with Dara T research (2020) that good eating habits in college students are 71.3%. The study states that students who have good knowledge will have good eating habits as well.²⁰ Hermina et al (2019) research there is a relationship between education and knowledge with eating habits.²¹ Sari research (2016) there is a relationship between education, work and family economy with eating habits.²² The results of the research by Matsumoto et al (2019) in Japan there is a relationship between knowledge of nutrition and eating patterns, where knowledge is lacking, food intake will be wrong.²³ about balanced nutritional intake as an effort to prevent Covid-19 is good, namely 74.5%.¹³ Siregar's research (2019) found that there was

no effect of intake of various types of food with nutritional status. However, Tok Chen Yun research (2018) in Brunei found that respondents with good knowledge but eating patterns were still wrong and unhealthy this could be due to work, stress and inappropriate time management factors. Dyah research (2018) good knowledge is not necessarily able to change healthy behavior in food consumption.²⁴ Counseling and education delivered to the public in this study that the food consumed plays an important role in supporting human life. The body needs a balanced energy intake in order to carry out activities throughout the day, and the body condition remains healthy in order to avoid disease infections because the wrong diet can cause disease, especially during the Covid-19 pandemic. Behavior related to how to eat, the pattern of food eaten, taboos, distribution of food in family members, and how to choose food ingredients. Diet can affect behavior in food consumption. Eating habits such as what, how, when, and the frequency of a type of food consumed affect the eating patterns of individuals and families. Diet is the consumption of food based on the amount, type and frequency. The balance of nutrient intake with the amount needed by the body is very important to fulfill various body functions. The Ministry of Health of the Republic of Indonesia said in the guide to balanced nutrition during the Covid-19 pandemic that the key to fighting various kinds of organisms so as not to contract the

Covid-19 virus and by consuming balanced nutrition to increase the immune system. Wrong diet is influenced by knowledge, information, environment, economy, food availability, stress, and work. Wrong diet can cause malnutrition which affects a person's health so that he is vulnerable to disease.⁶

Tabel 4. Relationship between Knowledge and Behavior during the Covid-19 Pandemic

Knowl edge	Behavior				Total	p value	r
	Correct		Wrong				
	n	%	n	%			
Good	430	78.8	116	21.1	546	100	0.62
Bad	63	53.4	55	46.6	118	100	0.2

The results of table 4 show that from 546 people who have good knowledge have the right behavior as many as 430 people (78.8%) with (P value = 0.000; = < 0.05) meaning that there is a relationship between knowledge and community behavior during the Covid-19 pandemic, with (r = 0.62) means that the correlation is strong. The behavior of the community in dealing with the Covid-19 pandemic situation showed that 493 people (74.2%) had behaved well and as many as 171 people (28.5%) still behaved wrongly. These results are in line with Peng et all (2020) research in China as many as 87% of respondents have good attitudes and behavior towards Covid-19 preventive efforts.¹⁷ Nogi S research (2021) shows the relationship between student knowledge and behavior in efforts to prevent Covid-

19. The study states that students who have good knowledge will have good behaviour during covid-19 pandemic.¹⁸ This result is also in line with Saefi research (2020) which states that attitudes are related to behavior. Behavior is influenced by social factors, certain behavioral patterns that occur due to health problems. Health behavior is a person's experience and interaction with the environment, which is related to knowledge and attitudes about health, as well as behavior related to health and disease.¹⁹ According to Notoadmodjo (2014) human behavior is a combination of desires, reactions, motivations, emotions, knowledge, attitudes and ways of thinking.¹⁴ Counseling and education delivered to the community in this study, either for groups, or individuals in the hope of increasing their knowledge about Covid-19. According to WHO, health education is a process of empowering individuals and communities to improve their ability to

control health determinants so that they can improve their health status. The education provided to the community aims to improve the community's ability to know the causes, symptoms, effects, modes of transmission and prevention of the Covid-19 disease, through learning from, by, for and with the community, so that they can help themselves, develop community-based activities, according to local social culture. According to Stachowska et al (2020) that by consuming healthy food, regular physical activity and good social interactions will improve a person's physical and mental health so that they have a good immune system.⁷

Tabel 5. Relationship between Knowledge and Dietary Habit during the Covid-19 Pandemic

Dietary Habit	Knowledge	Correct		Wrong		Total	P Value	r
		n	%	n	%			
Good	380	69.6	166	30.4	564	0.039	0.41	
Bad	20	16.9	98	83.1	118	100		

The results of table 5 show that from 564 people who have good knowledge have a correct eating pattern as many as 380 people (69.6%) with (P value = 0.039; = < 0.05) which indicates there is a relationship between knowledge and eating patterns, the value (r = 0.41) means that the correlation is moderate. Obtained (P value = 0.039; = < 0.05) which indicates there is a relationship between knowledge and eating patterns. This study is in line with the research of Khairunisa et al (2021) that there is a relationship between nutrition fulfillment and increased knowledge carried out by providing counseling about the importance of balanced nutrition as an effort to prevent exposure to the Covid-19 virus.³² The study of Septo et al (2021) found a relationship between knowledge and nutritional status.¹⁷ In addition to Doong's research (2020) among students of the Faculty of Public Health, there is a relationship between knowledge and nutritional status.³³ Muhdar research (2021) found a relationship between knowledge and eating habits.²⁹ In an effort to prevent the transmission of Covid-19, it is necessary to increase immunity that can be done by adjusting the diet. One of the

efforts to increase knowledge about the importance of balanced nutrition during a pandemic can be done through health promotion, in this health promotion a healthy lifestyle and nutritional intake that must be met during the Covid-19 pandemic, so that health promotion will increase public knowledge which will affect diet.³² Knowledge is obtained through information/health promotion obtained from various sources such as mass media, health workers and community leaders, information received through health promotion can affect changes in knowledge and eating patterns in the community during a pandemic Covid-19.¹⁷ A person's eating behavior can be influenced by knowledge that shows ways of thinking, attitudes and behavior in choosing the food to be consumed so as to prevent problems with nutritional status. Knowledge of the importance of a good diet during a pandemic is increasingly needed to increase immunity because an unfavorable lifestyle affects eating habits resulting in nutritional problems.³³ Diet has a major role in nutritional status and immunity levels, a good diet can be seen from the quality and quantity of food selected for consumption and this is conveyed in full in health promotion and education.³⁴

SIMPULAN

Based on the results of the study, it was found that still there 17.8% respondent with bad knowledge, 25.8% wrong behaviour and also 39.76% respondent with wrong eating patterns. From this research show that knowledge is related to behavior and eating patterns during the Covid-19 pandemic. So that there is still a need for counseling and education to the public so that there is an increase in knowledge and behavior during the Covid-19 pandemic.

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