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Effect Of Snakehead Fish Feeding On Weight Increase In Pulmonary TB Patients In The Simpang Kanan Singkil Health Center Area In 2024

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ABSTRACT

Pulmonary tuberculosis is an infectious disease caused by the bacterium Tbc (Mycobacterium tuberculosis). Snakehead fish to help meet the needs of its nutrients which aim to meet the increased need for energy and protein to prevent and repair damage to body tissues. Gain weight until it reaches normal and try to balance weight with height. The purpose of this study is to determine the Effect of Snakehead Fish Feeding on Weight Gain in Pulmonary TB Patients in the SimpangKanan Singkil Health Center Area in 2024. This type of research is a Pseudo-Experiment (Quasi Experiment) with a one group pre and post test design, The population in the study of all Pulmonary TB patients is 74 people, the sampling technique uses purposive sampling and the number of samples is 25 people, The data is taken through an observation sheet and processed through an Independent T Test, The results of the study show that the body weight before being given snakehead fish is very thin in the majority of 16 respondents (64.0%) and after being thin namely 12 respondents (48%). The results of the independent statistical test T Test obtained a value of p = 0.003 > 0.05 means that there is an Effect of Snakehead Fish Feeding on Weight Gain in Pulmonary TB Patients in the SimpangKanan Singkil Health Center Area in 2024. Conclusion The study has the effect of snakehead fish on weight gain in pulmonary TB patients in the SimpangKanan Singkil Health Center area in 2024, it is expected that health workers will provide counseling on snakehead fish in increasing body weight in pulmonary TB patients

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INTRODUCTION

Pulmonary tuberculosis (TB) is one of the infectious diseases caused by the bacterium Mycobacterium tuberculosis and can attack the human lungs. This disease is still a global health problem, especially in developing countries, including Indonesia. In addition to attacking the respiratory system, pulmonary TB can also cause significant weight loss in sufferers.

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Based on the Global Tuberculosis Report 2022, it is estimated that 8.6 million people in the world are infected with TB and 1.3 million of them have died. From this data, Southeast Asia accounts for 29% of TB cases in the world. This percentage is the highest percentage of TB cases in the world. Meanwhile, Indonesia ranks third in the largest number of TB cases after India and China (WHO, 2022).

Indonesia is the country with the 4th highest incidence rate of diseases in the world after India, China, and South Africa (who 2022). Data from the Health Research and Development Agency (2022) states that the prevalence of the Indonesian population diagnosed with tuberculosis (tuberculosis) in 2022 is still very high, at 1.4%. Based on health data that has been reported by the Health Office.

Aceh Province 2019-2021 explained that the number of cases of pulmonary tuberculosis recorded in 2019 was 22,361 human beings or 72.7% with a prevalence rate of around 169 per 100,000 population of Aceh, then in 2020 there was a decrease in the number of cases of pulmonary tuberculosis with a total of 21,954 people or around 72.29% with a prevalence rate of around 156.3 per 100,000 population in Aceh. In 2021, there was an increase in the number of cases of pulmonary tuberculosis (tuberculosis) in Aceh by 24,052 people or 76.35% with a prevalence of 174.71 per 100,000 population in the Mecca portico area (Aceh Provincial Health Office, 2022).

Malnutrition or malnutrition can also lead to a decrease in the body's immunity which increases susceptibility to infections. Generally, tuberculosis (tuberculosis) actively lowers nutritional status as reported in several studies conducted in Indonesia, India, the United Kingdom, and Japan. serum albumin in TB (tuberculosis) patients with malnutrition is generally low. The issue of nutritional status is important because improving nutrition is one of the efforts to prevent transmission and eradicate pulmonary tuberculosis. Poor nutritional status will increase the risk of pulmonary tuberculosis. On the other hand, pulmonary tuberculosis (tuberculosis) contributes to poor nutritional status due to the disease process that affects the immune system. In general, patients with this infection are of productive age (15–55 years) with the main symptoms of malaise and cough with phlegm > 2 weeks (Dewi, S. P. 2019).

The tendency to lose weight in people with tuberculosis is the result of anorexia symptoms that cause poor nutritional status, this condition can result in poor nutritional status if not balanced with the right diet. Malnutrition that occurs will aggravate the infectious disease, so that nutritional status is the main cause of treatment conversion failure in people with tuberculosis infection. (Sirait & Lubis, 2018)

Supplementary food is food given to a person to help meet their need for nutrients. (Anastasya & Prikhatina, 2016). Consume nutritious food. This arrangement aims to meet the increased energy and protein requirements to prevent and repair damage to the body's tissues. Gain weight until it reaches normal and try to balance weight with height. (Asfar, (2018).

One type of additional food that will be provided is the developer of additional food made from snakehead fish which has biological value, affordable processing prices. Based on the results of the operation in the market, it is known that snakehead fish is easy to obtain by

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the community, but in the community the fish has not been developed into safe and nutritious food form ingredients but only sold in fresh form and managed in household sizes only as a side dish, for this time snakehead fish will be developed into snakehead fish stew.

The administration of snakehead fish protein is given as a nustritization in TB patients and is expected to increase albumin levels so that it can improve nutritional status by having a synergistic effect on increasing the effectiveness of OAT work. Based on the explanation written above, the author wants to prove that snakehead fish albumin extract (Channa striata) has the potential as a nutrient in increasing weight in intensive phase TB patients.

The results of the preliminary survey in November 2023 by checking data that there are many patients who experience tuberculosis (tuberculosis). These results show that the incidence of pulmonary tuberculosis (tuberculosis) is still high at the Simpang Kanan Singkil Health Center. Although pulmonary TB treatment is available, many patients still experience difficulties in gaining weight optimally during the treatment process.

METHODS

This type of research is a Quasi-Experiment. According to Sugiyono (2015), a pseudo-experiment is a research that is close to a real experiment. This study aims to directly test the influence of one variable on other variables and test the hypothesis of a cause-and-effect relationship. The pseudo-experimental design has an experimental class and a control class, but the control class cannot fully control the external variables that affect the implementation of the experiment. The intervention was carried out to determine the effect of snakehead fish (channa striata) on the weight of patients with pulmonary tuberculosis.

The design used is a Quasi Experimental Design with a Non Equivalent Control Group. Also known as Non Rendomized Group Pretest postest In this study, the two experimental groups will be compared in the form of a pretest with the intention of finding out the state of the group before being given treatment. Then after being given action, the two experimental groups will be given a test in the form of a posttest (Nursalam, 2016). The purpose was to find out the condition of the two groups after being given the action of Giving Snakehead Fish to Increase the Weight of Pulmonary TB Patients in the Simpang Kanan Singkil Health Center Area This study is a quantitative research using a quasi-experimental method research design.

This research will be carried out in November 2023-March 2024 including tracing titles, surveys, making proposals, collecting data to preparing the final report The research on data collection will be carried out in the week of January 4, 2024. The population in this study is all patients suffering from pulmonary tuberculosis (tuberculosis) in the Simpang Kanan Singkil Health Center area. The samples in this study are 25 samples from part of the population, namely tuberculosis patients in the Simpang Kanan Singkil Health Center area. The determination of the sample in this study was carried out by purposive sampling with the following inclusion criteria:

a. Positive suffering from pulmonary tuberculosis marked with BTA positive
b. Willing to sample and consume snakehead fish
c. Can be communicated well

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d. Do not experience complications with other diseases.

Data classified as primary data includes: Sample Identity Data (Name, Age, Gender, Occupation and Address), Initial Height, Final Height, Initial Weight, Final Weight, Snakehead Fish Consumption and Food Intake Data before and after the intervention. Secondary data is data obtained without making observations, which is included in secondary data is an overview of the research location.

RESULTS AND DISCUSSION

Based on the results of research in the Simpang Kanan Singkil Health Center Area. The results of the respondent characteristics data are presented in the form of table 1 below:

Table 1. Data on Respondent Characteristics in the Simpang Kanan Singkil Health Center Area in 2024

No	Demographic Data	Frequency	Percentage (%)
1	Age		
	< 30 years	6	24,0
	31-49 years old	17	68,0
	> 50 years	2	8,0
	Amount	25	100
2	Work		
	Work	20	80,0
	Not working	5	20,0
	Amount	25	100
3.	Gender		
	Law Law	15	60,0
	woman	10	40,0
4.	Amount	25	100
	Weight		
	< 60 kg	22	88,0
	> 60 kg	3	12.0
5.	Amount	25	100
	Height		
	<160 cm	11	44,0
	>160 cm	14	56,0
	Amount	25	100

Based on the table above, it can be explained that most of the respondents aged 31-49 years were 17 people (68.0%), the majority worked as many as 20 people (80.0%), 15 people (60.0%) were male, 22 people (88.0%) weighed < 60kg, and 14 people (56.0%) were >160 cm tall.

Table 2. Weight Frequency Distribution of Pulmonary TB Patients before Snakehead Fish Feeding in the Simpang Kanan Singkil Health Center Area in 2024

No	Weight (pre)	Frequency	Percentage (%)
1	Very thin	16	64,0
2	Thin	5	20,0

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No	Weight (pre)	Frequency	Percentage (%)
3	Usual	2	8,0
4	Fat	2	8,0
5	Very fat	0	0,0
	Amount	25	100

It is known that the body weight before being given snakehead fish was very thin, with a total of 16 respondents (64.0%).

Table 3. Weight Frequency Distribution of Pulmonary TB Patients After Snakehead Fish Protein Giving in the Simpang Kanan Singkil Health Center Area in 2024

No	Weight (post)	Frequency	Percentage (%)
1	Very thin	8	32,0
2	Thin	12	48,0
3	Usual	3	12,0
4	Fat	2	8,0
5	Very fat	0	0,0
	Amount	25	100

It is known that the body weight after being given snakehead fish is thin in the majority of 12 respondents (48.0%).

Table 4. Independent T Test on the Effect of Snakehead Fish Feeding on Weight Gain in Pulmonary TB Patients in the Simpang Kanan Singkil Health Center Area in 2024

Treatment groups	n	Mean	Std. Deviation	*p*
Snakehead Fish Feeding (pre)	25	19.700	27.00	0,003
Snakehead Fish Feeding (post)	25	20.924	26.936	

Based on the table above, the effect before the administration of snakehead fish is 19,700 – the effect after the administration of snakehead fish is 20,924 and a value p 0.003 < 0.05 is given, then H0 is accepted and Ha is rejected. So it can be concluded that there is an Effect of Snakehead Fish Giving on Weight Gain in Pulmonary TB Patients in the Simpang Kanan Singkil Health Center Area in 2024.

Discussion

Weight of Pulmonary TB Patients before the Administration of Snakehead Fish in the Simpang Kanan Singkil Health Center Area in 2024

Based on the results of the study, it is known that the weight before being given snakehead fish is very thin. Judging from gender, most of the subjects of this study are male. This is in accordance with previous research which stated that men tend to suffer more from pulmonary tuberculosis (tuberculosis) than women because it may be caused by the social status and work of men who are more likely to be exposed to mycobacteria tuberculosis. The work environment and frequent interaction with other people can affect the rate of transmission due to contact with people suffering from pulmonary tuberculosis (tuberculosis). The habit of smoking tobacco and drinking alcohol in men can lower the body's defense system so that it is easier to be exposed to mycobacteria tuberculosis (Riskesdas, 2020).

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This is in accordance with the research of Alberigo Prana Jaya (2018) on the administration of snakehead fish nuggets to pulmonary tuberculosis patients and the study on the effect of snakehead fish nuggets on pulmonary tuberculosis patients, the majority of pulmonary tuberculosis patients are male.

Weight of Pulmonary TB Patients after Giving Snakehead Fish to the Simpang Kanan Singkil Health Center Area in 2024

Based on research, it is known that the body weight after being given snakehead fish is the majority of normal weight. Based on the results of the study, the weight before the administration of snakehead fish protein is the majority of people who are thin. Independent test result = p :0.003,(<0.05) It can be concluded that the value of p<0.05 indicates that there is a significant difference between before and after the administration of snakehead fish.

Body weight (BB) is one of the important parameters to determine nutritional status. Height is anthropometric data that describes the growth state of the body skeleton. Height gain is relatively less sensitive to nutritional problems in the short term. The effect of nutritional deficiencies on height will only be seen for a long time (Riyadi 2013). Therefore, weight is the main anthropometric nutritional status assessment used. The following are the results of the patient's nutritional status (tubercolus). This research is in accordance with Dewi Research (2014) the treatment before and after the administration of snakehead fish extract obtained a significance value of 0.007 (p < 0.05), this means that there is a significant difference in weight gain before and after the administration of snakehead fish extract in the treatment group.

Based on Sirait, A. R., & Lubis, J. I. (2018) research shows that adequate protein intake can help improve the weight and nutritional status of pulmonary TB patients. Protein can also help in boosting immunity and speeding up recovery. Adequate protein intake can help in the healing process of pulmonary TB and weight recovery. Snakehead fish, which is rich in high-quality protein, can be a good option in the recovery program of pulmonary TB patients. However, it is important to note that the treatment of pulmonary TB must be holistic and involve various aspects, including appropriate medical treatment and appropriate nutritional care. In addition, the diet plan must be tailored to the individual needs of each patient and closely supervised by experienced medical personnel.

Protein is an important nutrient needed to repair and build body tissues, including in the healing process of pulmonary TB. Snakehead fish, as a high source of protein, can be a good choice to increase the protein intake of pulmonary TB patients. As a general recommendation, consumption of snakehead fish or other high-protein sources can be part of a balanced diet plan for pulmonary TB patients. However, consult a doctor or nutritionist for more specific advice according to the patient's individual health condition and nutritional needs. Bahtiar (2019) . This research is in accordance with Bahtiar (2019) The administration of processed snakehead fish by the boiled method of 100 g per day for 30 days statistically affects the total protein level although the increase is not too large with an average increase of 0.56 g/dL or 8.5%.

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Research Limitations

The researcher's limitations lie in the implementation time which at the time of conducting the research coincided with the fasting month so that the respondents were not fully monitored whether snakehead fish were eaten or not.

CONCLUSION

The Weight of Pulmonary TB Patients Before the Administration of Snakehead Fish Protein in the Simpang Kanan Singkil Health Center Area in 2024 is very thin. The Weight of Pulmonary TB Patients after the Giving of Snakehead Fish to the Simpang Kanan Singkil Health Center Area in 2024 is the majority of them are thin. The results of the Independ T Test obtained a p-value of 0.003. Because P=0.003 ≤ 0.05, the test was declared significant. The results show that there is an Effect of Snakehead Fish Feeding on Weight Gain of Pulmonary TB Patients in the Simpang Kanan Singkil Health Center Area in 2024. This research is expected to be one of the sources of information, and increase the role of educators in conveying the influence of snakehead fish on weight so that it can increase student knowledge that will be implemented in community service.

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