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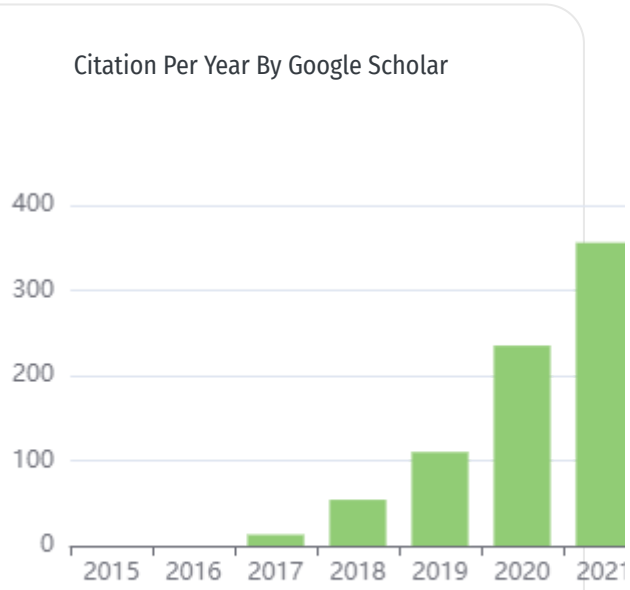

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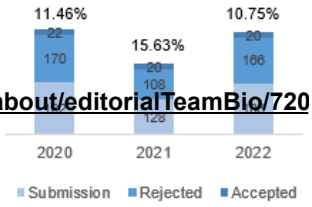

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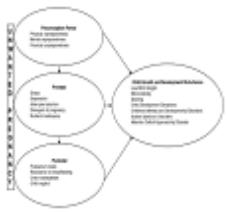

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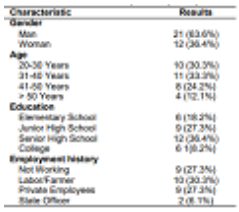

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MEDISAINS
Jurnal Ilmiah Ilmu - Ilmu Kesehatan

Original Article

Red ginger (*Zingiber officinale* var. rubrum) nanoparticle extracts on reducing the blood pressure for postpartum hypertension

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KEYWORDS

Nanoparticles; Ginger; Antihypertensive Agents; Postpartum Period

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A B S T R A C T

Background: Red ginger contains flavonoids, which can cause vasodilation and decreased cardiac output and pressure. Previous research on red ginger on blood pressure has been carried out and showed significant results. However, it has yet to be studied in nanoparticle extracts, where nanoparticles are the best drug carrier system, so it is necessary to research.

Purpose: Making and testing red ginger nanoparticle administration (*Zingiber officinale* var. rubrum) to reduce blood pressure in hypertensive postpartum mothers.

Methods: This is an experimental study with a pre-post control group design. The sample consisted of 40 postpartum hypertensive mothers divided into two groups, namely 20 interventions and 20 controls. The intervention group was given red ginger nanoparticles made using the bottom-up method with a dose of 300 mg and the antihypertensive drug nifedipine, while the control group was given the antihypertensive drug nifedipine alone; both were given for two weeks. Data analysis used the Independent t-test and reapeted ANOVA tests.

Results: The systolic blood pressure in the intervention group decreased by 12.95 mmHg on the 7th and 28.4 mmHg on the 14th day ($p<0.001$) while the control group was 7.05 mmHg on the 7th day and 14.8 mmHg on the 14th day ($p<0.001$). Diastolic blood pressure in the intervention group decreased by 3.55 mmHg on the 7th day and 11.90 mmHg on the 14th day ($p<0.001$), while the control group was 2.88 mmHg on the seventh day ($p<0.007$) and fifth day 35 mmHg on day 14 ($p<0.002$).

Conclusion: Giving red ginger nanoparticles can reduce blood pressure in postpartum hypertension.

INTRODUCTION

Hypertension during the puerperium complicates 10-15% of pregnancies and has a considerable role in morbidity and mortality in mothers and babies.[1] Hypertension that continues into the postpartum period can threaten the well-being and even death.[2] Based on the Ministry of Health in 2020, the most common causes of maternal death in Indonesia were bleeding in 1,330 cases (28.59%), hypertension in pregnancy 1,110 cases (23.86%), and infection in 216 cases (4.64%).[3] Mothers with postpartum hypertension can experience various complications, including brain hemorrhage, stroke, retinal injury, eye disorders, heart problems, pulmonary edema, and liver necrosis. Other researchers also reported that maternal complications of postpartum hypertension include kidney disorders, kidney failure, and damage to blood vessels.[4] Efforts to reduce morbidity and mortality in postpartum women with hypertension require treatment by providing therapy according to the program set by the government and also with complementary use. Handling hypertension in postpartum mothers aims to prevent complications that can be done through pharmacological and non-pharmacological treatment. Antihypertensive drugs, including ACE inhibitors, Ca blockers, Beta blockers, and diuretics, are given as pharmacological treatment.[5]

Currently, non-pharmacological treatments are widely used by the public because of their low cost and low side effects. One of the non-pharmacological treatments for high blood pressure is red ginger. Red ginger contains

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MEDISAINS
Jurnal Ilmiah Ilmu - Ilmu Kesehatan

Original Article

Effect of psycho-religious group therapy on hallucination in schizophrenia patient

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KEYWORDS

Schizophrenia; Hallucinations; Psychotherapy

CORRESPONDENCE

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A B S T R A C T

Background: Psycho-religious therapy can be used to treat schizophrenia patients. Group therapy is also effective at reducing the signs and symptoms of hallucinations. Combining these two methods for the intervention of schizophrenic patients who experience hallucinations still needs scientific evidence.

Objective: This study aims to determine the influence of dhikr psycho-religious group therapy on changes in signs of hallucination symptoms in patients with a psychotic disorder.

Methods: This is a pre-experiment study with a pre-post-test design. The sample number was 33 participants in schizophrenia patients with hallucinations. Sampling techniques use purposive sampling that meets inclusion criteria. The research instrument uses a hallucination signs and symptoms evaluation questionnaire. Dhikr psycho-religious group therapy is carried out in 4 times meetings with two stages—data analysis using frequency distribution and statistically paired t-test test.

Results: The hallucination symptom score before the intervention was 22.36; after the intervention, it decreased to 11.03. The statistical analysis showed significant differences in hallucination symptoms before and after the intervention of psycho-religious group therapy ($p<0.05$). Psycho-religious group therapy provides a medium effect in reducing hallucination symptoms (Cohen's d: 3.09).

Conclusion: Psycho-religious group therapy can significantly reduce hallucination symptoms.

INTRODUCTION

Schizophrenia is a psychotic disorder in the form of disorders with biopsychosocial dimensions accompanied by hallucinations, delusions, and strange behavior.[1-3] The phenomenon of schizophrenia mental disorder has increased significantly from year to year. Over 24 million people, or 1 in 300 persons (0.32%), globally have schizophrenia. Adults at this rate make up 1 in 222 individuals (0.45%). It does not occur as frequently as many other mental illnesses. The most common times for onset are in late adolescence, and the early twenties, and onset often occurs earlier in men than in women.[4] The Basic Health Riset results in 2018 showed that the prevalence of schizophrenia in Indonesia was 6.7%. Out of 1,000 households, 6.7 households have household members with schizophrenia/psychosis problems. The highest prevalence spread is found in Bali and Yogyakarta, with 11.1% and 10.4‰, respectively, who have ART with schizophrenia.[5] A preliminary study at the Grhasia Mental Hospital in Yogyakarta found that as many as 36 patients with schizophrenia had hallucinations in September 2020.

Schizophrenia's most prevalent symptom is hallucinations.[6] Hallucinations in the form of unreal sounds and visions, self-harm behavior, delusions or feelings of excessive suspicion towards someone around him, and strange changes in attitude are among the positive symptoms of schizophrenia.[7] They are encouraged to do so because of the influence of hallucinations of the voice heard.[8] Individuals feel a stimulus in the form of hallucinations that do not exist or are not that occur continuously. If not immediately overcome, it can cause negative impacts on schizophrenia patients, increasing anxiety, depression, and even suicidal desire.[1]

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MEDISAINS
Jurnal Ilmiah Ilmu - Ilmu Kesehatan

Innovation Article

The effectivity of mindfulness-based art therapy application-based artificial intelligence on the mental health of pregnant women

Yeyen Wulandari Dhanio [1]✉, Runjati [1], Ari Suwondo [1], Kurnianingsih [2], Sudiyono [3]

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ARTICLE INFORMATION

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KEYWORDS

Mindfulness; Pregnancy; Anxiety

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A B S T R A C T

Background: The COVID-19 pandemic has become a new stressor with significant pregnancy consequences, limiting access to health services. Mindfulness-Based Art Therapy (MBAT) has been proven to intervene in the body-mind-soul and improve mental health problems. However, no research has developed it into a form of artificial intelligence for use by pregnant women in supporting the current situation of access to health services.

Purpose: This study aims to produce a system of MBAT based on artificial intelligence for early detection and to prove the effectiveness of improving mental health in pregnant women.

Methods: This study employed Research & Development consisting of 4 stages, namely Literature Study, Development Stage, Validity Expert, and Trial.

Results: The MBAT application has five features, from mental health information to history. The validity score of the application system is 87.33%. The trial results showed that the application effectively reduces stress levels by 91.26% and anxiety by 90.24%. Also, the application can predict the percentage reduction in stress and anxiety levels correctly and without errors using the decision tree.

Conclusion: This application is helpful for pregnant women and health workers in detecting stress and anxiety levels early in pregnancy and improving mental health.

INTRODUCTION

The World Health Organization (WHO) states that 10% of pregnant women and 13% of postpartum mothers worldwide experience mental health disorders, with the most common forms being anxiety and stress. Developing countries have a higher prevalence of 15.6% during pregnancy and 19.8% after birth.[1] Since the COVID-19 pandemic (December 2019), the incidence of mental health disorders has increased, where anxiety symptoms increased from 10% to 37%, and depressive symptoms increased by 25% to 57%.[2] During the pandemic, 83.1% of women felt anxious about their health, 50,7% of pregnant women experienced increased anxiety, 66.7% related to their pregnancy, and 35% related to baby care.[3]

The impact of mental health disorders on pregnant women due to the COVID-19 pandemic is a significant challenge in health services. Mental health disorders can get worse because, during the pandemic, pregnant women have limited access to health services, so maternal and neonatal care needs are not met; apart from social restrictions, there are also various problems, such as the lack of availability of mental health care services, difficulties in adjusting schedules between clients and practitioners, clients have difficulty expressing themselves in face-to-face dialogue, lousy time, cost and distance from health services, stigma, and poor mental health literacy in the community.[4,5] This situation creates more pressure on pregnant women, harming the mother's mental health.[6] Appropriate and rapid mental health care support efforts are needed to face mental health challenges and prevent adverse health impacts in the future.[7,8]

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KETERANGAN LAYAK ETIK

DESCRIPTION OF ETHICAL EXEMPTION
"ETHICAL EXEMPTION"

No. 0739/EA/KEPK/2022

Protokol penelitian yang diusulkan oleh :
The research protocol proposed by

Peneliti utama : Dr. Krisdiana Wijayanti, M.Mid
Principal Investigator

Nama Institusi : Poltekkes Kemenkes Semarang
Name of the Institution

Dengan judul:
Title

"Potensi PMT Abon Ayam dan Nugget Lele Terhadap Peningkatan Berat Badan Balita Stunting"

"Potency of Shredded Chicken and Catfish Nuggets Supplementary Feeding in Increasing the Body Weight of Stunting Toddlers"

Dinyatakan layak etik sesuai 7 (tujuh) Standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan/Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards, 1) Social Values, 2) Scientific Values, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and 7) Informed Consent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.

Pernyataan Laik Etik ini berlaku selama kurun waktu tanggal 13 Oktober 2022 sampai dengan tanggal 13 Oktober 2023.

This declaration of ethics applies during the period October 13, 2022 until October 13, 2023.

October 13, 2022
Professor and Chairperson,

Dr. M. Choiroel Anwar, SKM, M.Kes (Epid)

Chicken floss and catfish nuggets supplementary to increasing weight gain in stunted children

by Martha Irene Kartasurtya

Submission date: 11-May-2023 05:55AM (UTC+0700)
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MEDISAINS
Jurnal Ilmiah Ilmu - Ilmu Kesehatan

Original Article

Chicken floss and catfish nuggets supplementary to increasing weight gain in stunted children

Krisdiana Wijayanti [1]✉, Bekti Putri Harwijayanti [1], Murti Ani [1], Susi Tursilowati [2], Martha Irene Kartasurya [3]

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Chickens Floss; Catfishes Nuggets; Dietary Supplements; Weight Gain; Stunting; Growth Disorders

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ABSTRACT

Background: Stunted children are not only less tall, but most of them are also underweight. Lack of nutritional intake, especially protein intake, is suspected as one of the factors. Shredded chicken and catfish nuggets have high protein, but the scientific evidence for these food supplements in increasing stunting children's weight is still limited.

Objective: To determine the effectiveness of supplementation chicken floss and catfish nuggets to increase weight gain in stunted children.

Methods: This is a quasi-experimental with a pretest-posttest design; as many as 70 stunted children with underweight participated in this study. Respondents were given supplementation for 14 days. Respondents' weight was monitored before and after. Data were analyzed by pair t-test.

Results: The results of the hedonic test of 30 panelists said that 27 (90%) stated that they received chicken floss, and 28 (90.33%) received catfish nuggets. There was an increase in the average stunting toddler weight after the given supplementation, which was 0.534 kg, ($p<0.0001$).

Conclusion: Chicken floss and catfish nuggets supplements can increase weight gain in stunted children.

INTRODUCTION

As many as 165 million children under five worldwide are estimated to be affected by stunting.[1] Based on the Indonesian nutritional status survey results, the stunting rate in Indonesia in 2022 is still high a 21.6%. Stunted children are not only less tall, but most of them are also underweight. Being underweight can be caused by insufficient protein needs.[2] Stunted toddlers have lower protein intake than toddlers who are not stunted.[3]

One of the efforts to prevent stunting in Indonesia is focused on fulfilling child nutrition in the first 1,000 days of life because it contributes to a 30% reduction in stunting.[4,5] The level protein adequacy factor is one of the determinants of the incidence of stunting.[6] Based on the study results, it was reported that giving interventions like giving biscuits based on blondo, snakehead fish, and brown rice for 90 days can improve the nutritional status and serum albumin levels of nutritional children.[7] Also, giving Moringa seed and leaf cookies can increase body weight.[8] Provision of additional food in the form of modification is very significant for improving the nutritional status of toddlers.[9] Consumption of soy tempeh nuggets is effective against weight gain for undernourished toddlers.[10] Based on the results of other studies, the product of roll cake substitution of red rice flour filled with shredded catfish is preferred. However, this study has only conducted trials on respondents once they determine the effect of a given snack on stunting prevention.[11]

The community welcomes the introduction of fish nuggets as an innovation in processed fish.[12] Fish is a source of animal protein needed by the body. One of the easiest fish to cultivate is the catfish.[13] Besides catfish, chicken meat is a potential food ingredient with many nutrients. Chicken

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meat is the best source of protein that can support growth and development for children.[14] The processing of catfish into nuggets and chicken into floss is quite simple and can be done with simple equipment, but the scientific evidence supplementation chicken floss and catfish nuggets to increase the weight of stunted children are still limited. This study aims to determine the effect of supplementing chicken floss and catfish nuggets on increasing body weight in stunted children.

METHOD

Study Design

This research is quasi-experimental with a one-group pretest-posttest design.[15]

Setting and Respondent

The research was conducted in Blora Regency, Central Java, in October-December 2022. The population in this study were toddlers who were stunted, a total sample of 70 respondents, with inclusion criteria: age 1-5 years, not having fish or meat food allergies, No under treatment, willing to follow the research to completion; Children with pulmonary tuberculosis, digestive disorders, and do not participate in the study until the end are exclusion criteria in this study. Sampling was done by purposive sampling.[16]

Making Chicken Floss and Catfish Nuggets

Chicken Floss

The ingredients for making chicken floss are 500gr chicken fillets, 200gr pumpkin, one teaspoon salt, three bay leaves, three lime leaves, one stalk lemongrass, three garlic cloves, five shallots, three candlenuts, one teaspoon coriander powder, one galangal segment crushed, one turmeric segment, one tablespoon brown sugar, 1/2 teaspoon sugar, 1-liter water, five tablespoons cooking oil for sauteing. How to make it: 1) Wash the chicken thoroughly and then boil it along with one bay leaf, one lime leaf, and lemon grass until the meat is tender and cooked; 2) Shredded the chicken until small size; 3) Make spices (Grind the garlic, shallots, candlenuts, cilantro, coriander, turmeric, and salt); 4) Grate the pumpkin then sprinkle with a teaspoon of salt, wash thoroughly then drain; 5) Sauté the spices, mix the bay leaves, lime leaves, galangal, brown sugar and stir until cooked; 6) Add shredded meat and bell peppers, and stir until dry and brown; 7) Drain with a spinner, ready to serve.

Catfish Nuggets

The ingredients for making catfish nuggets are 300 g of boneless catfish meat, nine slices of white bread, 300 ml milk, three eggs, three tablespoons of cornstarch, one teaspoon of ground pepper, three cloves of garlic, six tablespoons of red onion, 1/2 teaspoon salt, one teaspoon sugar, cooking oil to taste. How to make it: 1) Soak white bread in milk for 10 minutes; 2) Grind the garlic and shallots, mix all the ingredients, stir, and pour into a baking dish greased; 3) Steam for 20 minutes; 4) Remove and let cool, then cut according to taste; 5) Dip the nuggets into the egg white and roll in the breadcrumbs; 6) Fry the nuggets in medium heat oil until golden yellow.

Hedonic Taste Acceptance Test

The hedonic test of taste was carried out on 30 consumer panelists, namely, stunting toddlers who were not the subject of the study. Panelists in this hedonic test have the same characteristics as research respondents. After the toddlers tasted the shredded chicken and catfish nuggets, the panelist parents were asked to ask the child for an assessment, and the panelist parents filled out the sheets provided. The acceptance ranges for shredded chicken and catfish nuggets were determined to Really like, more likes, like, somewhat like, standard, and do not like. The hedonic test data is divided into two categories: acceptable and unacceptable.

Experimental Procedure

The intervention was given by giving chicken floss and catfish nuggets for 14 consecutive days. Every day the respondents consumed four tablespoons of chicken floss (±9 g per spoon) and five pieces of catfish nuggets (±25 g per piece). Food recalls were carried out daily (for 14 days), ensuring adherence to chicken floss and catfish nuggets to avoid confounding factors.

Variables, Instruments, and Measurements

The variable that is measured is the change in stunting toddler's weight using a calibrated digital scale. The observation sheet is used to record body weight. Weighing was carried out 2 times (pre and post), namely on the first day before the intervention and the fourteenth day.

Data Analysis

The paired t-test was used to determine the effectiveness of supplementing on increasing body weight.

Ethical Consideration

This study is approved by the Ethics Commission of the Poltekkes of the Ministry of Health Semarang, with the number No. 0739/EA/KEPK/2022.

RESULTS

Figure 1 is an example of chicken floss and catfish nuggets. Each package of chicken floss weighs ±252 g per pack. Each package of catfish nuggets contains ±35 pieces of nuggets (±25 g per piece) with a total weight of ±875 g per pack. The results of the hedonic test of 30 panelists said that 27 (90%) panelists stated that they received chicken floss, and 28 (90.33%) panelists received catfish nuggets (Table 3).

Figure 1. Chicken Floss and Catfish Nuggets

Table 1. Characteristics of Respondents (n=70)

Characteristics	Result
Sex	
Male	37 (52.8%)
Female	33 (47.2%)
Age	
1-2 years	13 (18.5%)
2-3 years	34 (48.6%)
3-5 years	23 (32.9%)
Height / Age	
Severely stunted	23 (32.9%)
Stunted	47 (67.1%)
Weight / Age	
Severely underweight	45 (64.3%)
Underweight	25 (35.7%)

Table 2. Differences in Weight Change

Weight	Mean±SD (kg)	Mean diff	t	p-value
Before	10.25±1.729	0.534	14.567	0.0001
After	10.78±1.754			

Table 1 shows that most of the respondents in this study were male (52.8%), with ages ranging from 1-5 years; all respondents were in the stunting and underweight category. Analysis results found that the average body weight before the intervention was 10.25 kg, and after the intervention was 10.78 kg ($p<0.0001$). The average increase in body weight after giving shredded chicken and catfish nuggets for 14 days was 0.534 kg, which means that consumption of shredded chicken and catfish nuggets supplements can increase weight gain in stunted children (Table 2).

DISCUSSION

This study found that chicken floss and catfish nuggets effectively increased weight gain in stunted children, with an average increase of 0.534 kg. Every day the respondents consumed four tablespoons of chicken floss (±9 g per spoon) and five pieces of catfish nuggets (±25 g per piece) for 14 days. The results of the calculation of the nutritional contribution of nuggets with a serving size of 50 g to the Recommended Dietary Allowances (RDA) for toddlers (1-5 years) have fulfilled 8% RDA of energy, 11.4% -12.7% RDA of fat, 22-27.6% RDA of protein, carbohydrates 4.6-4.7% AKG and 6.6-6.9% fiber. One serving of selected nuggets (50 g) contributes 8% energy, 11.4%-12.7% fat, 22-27.6% protein, 4.6-4.7% carbohydrates, and 6.6-6.9% fiber. The nutritional content of selected nuggets per serving size (50 g) is 114 kcal energy, 5.72 g fat, 5.51 g protein, 10.2 g carbohydrates, and 1.32 g fiber.[17]

Insufficient protein needs can cause weight gain. Good protein consumption can meet the needs of essential amino acids, namely amino acids that cannot be synthesized in the body and must be obtained from food. Animal protein has better quality than vegetable protein because the amino acids are complete.[18] Fish contains various proteins, fats (omega three fatty acids), vitamins (vitamin A, vitamin D, vitamin B6, vitamin B12), and minerals (iron, iodine, selenium, zinc, and fluorine) needed by the body.[19] One type of freshwater fish that is rich in benefits and easy to find in the environment is catfish.[20] Each part of the catfish contains nutrients that can be beneficial if consumed as the head of the catfish contains 50.94% protein, the meat contains 17.7%, and the fish bones contain a rich in calcium which is 39.24%.[11]

In 100 g, catfish contains protein 20.0-46.6% (w/k), fat + 20.8 (w/k), minerals + 14.6% (w/k), water, and + 6.81% (w/k).[20] The catfish nugget in this study is a form of processed product made from catfish which is printed in the form of rectangular pieces and coated with seasoned flour, is ready to cock (ready to be cooked), and packaged in frozen form (stored in the freezer), without additives preservative. Catfish nuggets are a product that is seasoned and then covered with flour adhesive, breadcrumbed, and then fried.[21] The catfish nuggets in this study are flat in shape. This attracts attention and tastes liked by children, so this product is popular to eat daily.

Based on the research results, consuming 50 g of catfish sausage and nuggets can improve the nutritional status of children under five.[22] Freshwater fish is perfect for contributing to the development of the brain of toddlers and is safe for consumption. Catfish is the most widely consumed because it is easy to obtain and cheap.[23] The catfish nugget product can be used as an alternative high-protein snack for toddlers; the results of the nuggets acceptance test on 30 toddlers (1-5 years old) show 83.3% of subjects can accept the nuggets product well.[17] The body needs proteins and amino acids to maintain cells and organs, especially in infants and children; protein and amino acids are helpful for growth and development.[24]

Apart from being high in protein and calcium, catfish is rich in essential amino acids, which can function as a growth and development in the human body. Then, catfish have lower levels of mercury than mackerel and are, therefore,-

Table 3. Acceptance of Flavors (n=30)

Type	Accepted					Not Accepted
	Really like	More likes	Like	Somewhat like	Standard	do not like
Chicken Floss	4 (13.3%)	6 (20%)	12 (40%)	2 (6.7%)	3 (10%)	3 (10%)
Catfish Nugget	3 (10%)	4 (13.3%)	17 (56.7%)	3 (10%)	1 (3.3%)	2 (6.7%)

suitable for nutritional fulfillment.[25] The advantage of catfish compared to other animal products is that it is rich in leucine, lysine, and omega-3 and omega-6 fatty acids. Leucine ($C_6H_{13}NO_2$) is an essential amino acid for children's growth and for maintaining nitrogen balance. Leucine is also helpful for the overhaul and formation of muscle protein. At the same time, lysine is one of the nine essential amino acids needed for growth and tissue repair. Lysine is an amino acid that is very important and is needed for the growth and development of children.[26]

Chicken meat contains complete essential amino acids at once in quite a lot; namely, 2223 mg.[24] Protein is one of the macro-nutrients that functions as a building agent, maintains cells and tissues of the body and helps in the metabolism of a person's immune system. Protein derived from food will be digested and converted into amino acids that function as neurotransmitters precursors and play a role in developing the child's brain.[2] Protein has many functions in our body. Protein supports the existence of every body cell, the body's immune process. Protein is involved in the immune system as an antibody, a control system in the form of hormones, and nutrient transport.[23] Deficiency of amino acids can disrupt metabolism and primarily function as a precursor for essential hormones in the growth process (growth hormone, tyrosine, and adrenaline).[24] Fulfilling protein needs every day can increase stunting toddler weight gain.

CONCLUSIONS AND RECOMMENDATION

Providing supplementary food, chicken floss, and catfish nuggets can increase stunting toddler weight. Processed chicken floss and catfish nuggets can be used as an alternative for toddler food because they are relatively easy and inexpensive. Mothers who have stunted toddlers are expected to be able to meet their toddler's protein needs every day by providing chicken floss and catfish nuggets to increase stunted toddlers' weight.

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