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The effect of giving fish extract (Pujimin Plus) on intake of protein and hemoglobin hypoalbuminemic patients[☆]



Moh. Rizki Fauzan^{a,*}, Citra Kusumasari Dahlan^a, Nurpudji A. Taslim^b, Aminuddin Syam^a

^a Nutrition Department, Public Health, Hasanuddin University, Indonesia

^b Department of Nutrition School of Medicine, Hasanuddin University, Indonesia

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KEYWORDS

Fish;
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Abstract

Objective: This study aimed to determine the effect of cork extract on albumin levels and protein intake in hypoalbuminemic patients at Wahidin Sudirohusodo Hospital.

Methods: This study was a quasi-experimental study with a randomized controlled trial (RCT) design, then divided into 2 intervention and control groups each consisting of 17 people.

Results: Data analysis showed that albumin level of intervention group 2.95 ± 0.28 increased to 3.17 ± 0.39 ($p=0.011$). In control group 2.93 ± 0.27 decreased to 2.88 ± 0.49 ($p=0.527$). For protein intake in intervention group 56.27 ± 25.95 to 91.10 ± 26.17 ($p=0.002$). In control group 42.26 ± 13.78 to 54.66 ± 17.62 ($p=0.032$). And for hemoglobin intervention group from 10.83 ± 2.46 increased 11.30 ± 1.65 but statistically not significant ($p=0.345$), while in control group 10.78 ± 1.28 to 10.86 ± 1.44 ($p=0.765$).

Conclusion: There was an effect of giving cork fish extract (Pujimin Plus) to albumin levels and protein intake in hypoalbuminemic patients.

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* Corresponding author.

E-mail address: mohammad.rizkifauzan@yahoo.co.id (Moh.R. Fauzan).

Introduction

Hypoalbuminemia is the most common one found in patients who experience critical hospitalization. If the disease causes moderate or severe hypoalbuminemia with albumin levels ranging from 3.4g/dL, it results in a loss that can affect a clinical course and has a negative impact on prognosis.¹ Hypoalbumin is often associated with longer recovery of bowel function and postoperative complications of colon

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cancer or gastrointestinal surgery and albumin levels reflect nutritional status in long-term hospitalized patients.² Some research results reinforce this opinion, where the prevalence of malnutrition in new patients entering in Latin America shows 50.2% and 3 large hospitals in Indonesia reported 56.9%.³

Research conducted by Herrmann found that 21% of patients admitted to hospitals had serum albumin concentration of <3.4 g/dL.⁴ There is a significant relationship between hypoalbuminemia and an increased risk of infection complications, length of hospital stays, and death in both medical patients and surgical patients. Patients with lower serum albumin levels have 2.5 times higher risk of infection and mortality and 8 times higher for ICU length of stay and length of stay in hospital.⁵ So patient needs adequate nutrition, nutrients in food not only contain macronutrients such as carbohydrates, proteins, and fats that produce energy, but also contain micronutrients such as vitamins and minerals as regulators of the body.⁶

Based on the description above, the author needs to conduct research to find alternative to cheaper protein sources that can increase albumin levels in the blood, at prices that are far cheaper and affordable for the community. Researcher thinks similar study has not been carried out in South Sulawesi, giving cork fish extract (Pujimin Plus) in capsule form which is supplement and is not part of the total calorie and protein needs of hypoalbuminemia patients.

Methods

Research design

This study used a Randomized Clinical Trial (RCT) randomized clinical trial design. To determine the role of albumin levels and protein intake in patients with hypoalbuminemia.

Population and samples

The population was patients treated at RSUP Dr. Wahidin Sudirohusodo and the network was 34 people who fulfilled the inclusion criteria, patients who were diagnosed with hypoalbuminemia and were willing to take part in this study by signing an informed consent. The study exclusion criteria were patients who had been given albumin intravenously and had abnormal liver and kidney function. The study sample was divided into 2 groups: intervention group received 3x2/day and the hospital's standard diet, and control group only got a standard hospital diet. Each group consisted of 17 people and received a standard hospital diet and education for 10 days of intervention.

Method of collecting data

Basic data about patient identity such as name, age, sex, and body length are obtained from medical record data. Body mass index (BMI) is calculated based on the formula of weight (kg) divided by the square of height (m²) and expressed in kg/m². Data on nutrient intake was obtained by interviews and using the 24-h Food Recall form analyzed with the Indonesian version of Nutrisurvey. Albumin levels were examined in a hospital laboratory.

Data analysis

Data are processed by SPSS program. Food consumption data is processed with the Nutrisurvey computer program. Univariate analysis was conducted to get a general picture of each research variable, by looking at the description of the frequency distribution. Bivariate analysis was conducted to examine the effect of independent variables on the dependent variable, as well as the differences between two dependent scales. It is known that measurement scale for the dependent variable is the ratio of the type test used to determine the effect of independent variables on dependent variable *T*-test if the data is normally distributed and the Wilcoxon Signed Ranks Test if the data is not normally distributed. Whereas to find out the differences between the groups given the intervention and the group not given the intervention with the dependent variable using the ratio scale, test used is the unpaired *T*-test if the data is normally distributed and the Mann-Whitney test if the data is not normally distributed.

Statistically, in this study, there is a significant or significant influence between the independent variable and the dependent variable, significant if the *p*-value ≤ 0.05. Whereas for knowing the average of each iron status indicator is used compare means analysis.

Results

Data showed that generally the male sex of intervention group was 76.5% while in the male control group there were 94.1%. Based on the age of the sample, the majority were in the age range of 20–39 years where intervention group 52.9% and the lowest was the sample age range 60–79 years 17.6%, and control group distribution also in age range of 20–39 years 47.1% and lowest age range 60–79 was 17.6%. The nutritional status of the sample in many intervention groups was classified as normal 52.9% as well as in control group many were classified as normal 9 people 52.9% (Table 1).

Albumin in intervention group showed significant differences between the pre-test and post-test (*p*=0.011). Whereas in control group, there was no significant difference between the pre-test and post-test (*p*=0.527) (Table 2).

Protein intake in intervention group showed an increase and statistically showed significant differences between the pre-test and post-test (*p*=0.002). And control group also showed a significant increase and influence between pre-test and post-test (*p*=0.032). Although the increase in intervention group was higher than control group (Table 3).

The hemoglobin level in intervention group showed no significant difference between the pre-test and post-test with the value of *p*=345. And in control group there was also no significant difference between pre-test and post-test with a value of *p*=765. Although statistically in both groups showed no significance, but descriptively there was an increase in both groups (Table 4).

Discussion

This study is expected that the administration of cork fish extract as an alternative source of protein can increase albumin

Table 1 Distribution of sample characteristics by gender, age and BMI.

Variable	Intervention group		Control group		p-Value
	n	%	n	%	
<i>Gender</i>					
Man	13	76.5	16	94.1	0.335
Woman	4	24.5	1	5.9	
<i>Age</i>					
20-39	9	52.9	5	29.41	0.319
40-59	5	29.4	9	52.9	
60-79	3	17.6	3	17.6	
<i>IMT</i>					
Underweight	7	41.2	7	41.2	1.000
Normal	9	52.9	9	52.9	
Overweight	1	5.8	1	5.8	

Table 2 Analysis of differences in albumin levels before and after treatment.

Albumin	Pre test	Post test	Δ Mean \pm SD	p-Value
Intervention	2.95 \pm 0.28	3.17 \pm 0.39	0.21 \pm 0.31	0.011*
Control	2.93 \pm 0.27	2.88 \pm 0.49	-0.05 \pm 0.33	0.527*
p value	0.808**	0.064**	0.021**	

* Paired t-test.

** Unpaired t-test.

Table 3 Analysis of differences in protein intake before and after treatment.

Intake protein	Pre test	Post test	Δ Mean \pm SD	p-Value
Intervention	56.27 \pm 25.95	91.10 \pm 26.17	34.83 \pm 38.66	0.002*
Control	42.26 \pm 13.78	54.66 \pm 17.62	12.40 \pm 21.82	0.032*
p value	0.058**	0.000**		

* Paired t-test.

** Unpaired t-test.

Table 4 Analysis of differences in hemoglobin levels before and after treatment.

Hemoglobin	Pre-test	Post-test	Δ Mean \pm SD	p-Value
Intervention	10.85 \pm 2.46	11.30 \pm 1.65	0.45 \pm 1.91	0.345*
Control	10.78 \pm 1.28	10.86 \pm 1.44	0.08 \pm 1.11	0.765*
p value	0.917**	0.414**	0.496**	

* Paired t-test.

** Unpaired t-test.

min levels, with prices that are cheaper and affordable in community. Administration of cork fish extract in capsule form which is a supplement and is not part of the total calorie and protein needs of patients with hypoalbuminemia. The provision of cork fish capsules is expected to facilitate patients to consume supplements from cork fish so that they can improve protein intake and hemoglobin levels.

This research line with the research conducted Taslim⁷ that the administration of cork fish extract capsules in patients of 3 g/day will increase albumin levels 0.69, protein levels, weight gain and BMI followed by increased intake of

energy, protein, carbohydrates and patient fibers. Hidayati who reported an increase in blood albumin in postoperative patients at Wahidin Sudirohusodo General Hospital Makassar who were given capsules of cork fish concentrate for 14 days at 0.7 g/dL.⁸

Adequate protein intake shows that side dishes are generally good because protein is supplied from both animal and vegetable dishes. Protein deficiency will have an impact on poor growth, decreased body resistance, more susceptible to disease, and decreased creativity and work power. Protein intake in intervention group changed from less to enough

Adequate nutritional support can improve the level of visceral protein in the body that has been used as an energy source due to the intake of energy derived from food that is not sufficient for the body to deal with the chronic inflammatory processes that occur.⁹ Wilson explained the network will use albumin as a source of amino acids. One of these amino acid allotments is then used to compile damaged or worn cells or tissues.¹⁰

Conclusion

It can be concluded that the administration of cork fish extract for 10 days as much as 3×2 per day can increase albumin levels and protein intake and hemoglobin in patients with hypoalbuminemia. In order to get more information about this study, it is recommended that measurements of albumin indicators and protein intake be taken to determine how much is needed in hypolabuminemia patients.

Conflict of interest

The authors declare no conflict of interest.

References

1. Mazzaferro EM, Rudloff E, Kirby R. The role of albumin replacement in the critically ill veterinary patient. *J Vet Emerg Crit Care.* 2002;12:113–24.
2. Lohsiriwat V, Lohsiriwat D, Boonnuch W, Chinswangwatanakul V, Akaraviputh T, Lert-Akayamane N. Pre-operative hypoalbuminemia is a major risk factor for postoperative complications following rectal cancer surgery. *World J Gastroenterol.* 2008;14:1248.
3. Budiningsari RD. Pengaruh perubahan status gizi pasien dewasa terhadap lama rawat inap dan biaya rumah sakit. *J gizi Klin Indones.* 2004;1:35–45.
4. Herrmann FR, Safran C, Levkoff SE, Minaker KL. Serum albumin level on admission as a predictor of death length of stay, and readmission. *JAMA Intern Med.* 1992;152:125–30.
5. Lee JS. Albumin for end-stage liver disease. *Korean J Intern Med.* 2012;27:13–9.
6. Arisman MB. Buku Ajar Ilmu Gizi Dalam Daur Kehidupan. Edisi-2. Jakarta: EGC; 2010.
7. Taslim NA. Pembuatan Tepung Ikan Gabus Sebagai Makanan Tambahan Sumber Albumin Dan Pemanfaatannya. Pusat Penelitian Pangan Gizi Dan Kesehatan. Universitas Hasanuddin Makassar; 2005.
8. Taslim NA, Hidayanty H, Jafar N [Thesis] Pengaruh Pemberian Kapsul Konsentrat Ikan Gabus pada Pasien Pasca Bedah di RSU DR. Wahidin Sidurohusodo Makassar. Universitas Hasanuddin; 2006.
9. Thapa BR, Walia A. Liver function tests and their interpretation. *Indian J Pediatr.* 2007;74:663–71.
10. Wilson JR. Shade-stimulated growth and nitrogen uptake by pasture grasses in a subtropical environment. *Aust J Agric Res.* 1996;47:1075–93.

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