

## Formulation And Evaluation Of Catfish ( *Calias Sp* ) Albumin Extract Ointment With Variations Of Basis

Erik Rismawan<sup>1</sup>, Davit Nugraha<sup>1\*</sup>

1. Pharmacy Study Program, STIKes Muhammadiyah Ciamis, Ciamis, Indonesia.

Korespondensi: Davit Nugraha

Email: [davitnugraha@gmail.com](mailto:davitnugraha@gmail.com)

Alamat : Jl. K.H. Ahmad Dahlan No.20, Ciamis, Kec. Ciamis, Kabupaten Ciamis, Jawa Barat



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### ABSTRACT

Catfish (*Clarias sp*) contains albumin which is an important protein needed by the human body, especially in the process of healing diseases. Giving this catfish extract functions as a nutrient, it is hoped that this nutrition can improve nutrition, increase the immune system and speed up the wound healing process or post surgery. This research is an experimental research, in which the albumin ointment formulation of catfish (*clarias sp*) extract was carried out, with variations of vaselin flavum and adeps lanae ointment bases in three formulations namely formulation 1, formulation 2 and formulation 3. The results of catfish extract (*clarias sp*) were then formulated in the form of an ointment. Then an evaluation of physical properties was carried out including organoleptic evaluation, homogeneity test, spreadability test, adhesion test, pH test. The results showed that the albumin extract ointment for catfish (*Clarias sp*) with variations in ointment base made a difference to the evaluation of albumin extract for catfish (*Clarias sp*) which included organoleptic tests (soft shape, white to yellow), homogeneity test (has round particles, irregular, no foreign particles), spreadability test (FI, 5.16cm: FII, 5.23cm: FIII, 5.06cm), adhesion test (FI, 3.19 seconds, FII 2.27 seconds, FIII 3.24 seconds), pH test (FI 6, FII 6, FIII 6). The conclusion that the vaseline flavum ointment combined with adeps lanae from catfish albumin extract meets the quality consists of an evaluation. homogeneity test, organoleptic test, adhesion test, spreadability test and pH test.

**Keywords** : Catfish , Vaseline Flavum, Ointment.

## INTRODUCTION

Catfish (*Clarias sp*) contains albumin which is an important protein needed by the human body, especially in the process of healing diseases. Giving (catfish extract) serves as a nutrient, it is hoped that this nutrient can improve nutritional status, enhance the immune system and speed up the healing process (Garner, 2011).

The albumin content in catfish is generally higher than other fresh fish, compared to other fish such as catfish, gourami, tilapia, goldfish, and so on. The content of essential and non-essential amino acids in snakehead fish has a much better quality than egg albumin. Albumin is a protein that is easily damaged by heat. Albumin belongs to the group of globular proteins which are generally round or elliptical in shape and consist of folded polypeptide chains. At the time of heating, the heat will penetrate the meat and reduce the functional properties of the protein (Harianti, 2011). Some of the commonly used cooking methods are boiling and steaming. Boiling can cause greater loss of nutrients in foodstuffs compared to steaming. This can happen because during the boiling process the fish is submerged in water so that some water-soluble nutrients such as protein are also dissolved in the boiling water. The purpose of steaming is to make the texture of the ingredients soft. The steaming process can minimize the loss of nutrients. The weakness of the steaming system is that to obtain a high yield of filtrate it takes longer time and a higher heating temperature (Harianti, 2011).

Therefore, catfish mucus (*Clarias sp*) is formulated in the form of gel or ointment preparations because these preparations can give a cooling effect which contains a lot of water so that it is expected to help speed up the working process of active substances as a substitute for damaged cells in wound healing. In general, wound medications can be given in dosage forms such as ointments, creams or gels, gels or ointments are an effective choice for wound healing because the drug contact time is longer and can protect the wound from contamination [2 (Harianti, 2011). Wound is a case of injury that is often experienced by every human being and is a condition where a part of the body's tissue is lost or damaged. The skin plays an important role in human life, including regulating water and electrolyte balance, regulating temperature and functioning as a protector against the outside environment. The skin cannot carry out its functions properly when

this barrier is damaged due to various causes such as ulcers, trauma or neoplasms therefore it is very important to restore its integrity as soon as possible (Kartika et al., 2015).

## METHOD

Type design research to be done on study This that is study experiment . Evaluation done For know good ointment that is evaluation purposeful organoleptic For know shape , color and smell with observation use five senses . Evaluation homogeneity aim For showing mixed arrangement or homogeneous And No seen exists rough points . Evaluation Power spread aim For know semisolid consistency so comfortable in usage . Evaluation Power sticky For know attachment sa lep , evaluate \_ pH measurement for know what is the pH of the ointment in accordance with skin pH. ie aim For know level viscosity preparations ointment .

The instruments used in this study were a diameter glass to test the spreadability, an adhesive test tool to test the adhesion, a pH meter to test the pH of the ointment, a slide to test homogeneity, and a slide to test the organoleptic.

**Table 1.** Ointment Formulations

Compositio n	Concentration		
	F1	F2	F3
Catfish oil extract	6.25grams	6.25grams	6.25grams
Methyl paraben	0.05g 0.25g	0.05g 0.25g	0.05gr 0.25g
Propylene glycol	- 18.45g	18.45g -	9.25 g 9.25g
Adeps lanae Vaseline flavum Amount	25gram	25gram	25gram

**Table 2.** Rendeman Extract Catfish

Sample	Results Extraction	Rendemen	Observation
Meat fish catfish as much as 875 grams	58 grams	6.62 %	Smell fishy typical fish , color white brown

**Table 3.** Organoleptic Observation Data

formulation	Color	Smell	Texture
F1	Yellow young	arise smell fishy	Soft , semi- solid , sticky
F2	White murky	Smell fishy , rancid	Very soft , semi solid , slightly sticky
F3	White A little yellow	Smell fishy , a little rancid	Very oxen , little sticky , semi solid

**Table 4.** Homogeneity Test Results Data

formulation	Particle small or big	Particle foreign	Insect or lice	Arrangement particle
F1	6 point	No There is	No There is	Good And No homogeneous
F2	No There is	No There is	No There is	Good And homogeneous .
F3	No There is	No There is	No There is	Good And homogeneous

**Table 5.** Spreadability tes

formulation	Replication	Power spread	Average (diameter)
F1	1	5.2cm	5.16cm
	2	4.8cm	
	3	5.5cm	
F2	1	5.5cm	5.23cm
	2	5.3cm	
	3	4.9cm	
F3	1	5.1cm	5.06cm
	2	4.8cm	
	3	5.3cm	

**Table 6.** Stickiness

formulation	Replication	Power sticky	Average (seconds )
F1	1	03.28 sec	3.19 seconds
	2	03.10 sec	
	3	03.20 sec	
F2	1	02.29 sec	2.27 seconds
	2	02.27 sec	
	3	02.25 sec	
F3	1	03.22 sec	3.24 seconds
	2	03.27 sec	
	3	03.25 sec	

**Table 7. Ph Test**

formulation	Replication	Ph	Average
F1	1	6	6
	2	6	
	3	6	
F2	1	6	6
	2	6	
	3	6	
F3	1	6	6
	2	6	
	3	6	

## 2.2. Formula

Making extract meat fish catfish (*Clarias sp.*) with method meat fish catfish (*Clarias sp.*) the has clean laid in petri dish and inserted into the oven with At 100 °C the petri dish is placed on its side so that the albumin comes out separated from meat fish catfish (*Clarias sp.*). Extract colored white brown go out from meat fish catfish (*Clarias sp.*) after ± 42 minutes .. The extract obtained as much as 58 grams. yield on fish Then counted with the following formula :

$$\% \text{ Yield} = \frac{\text{bobot ekstrak yang diperoleh (g)}}{\text{bobot sebelum diekstrak (g)}} \times 100\%$$

$$\% \text{ Yield} = \frac{58 \text{ gram}}{875 \text{ gram}} \times 100\%$$

$$\% \text{ Yield} = 6,62 \%$$

## RESULTS AND DISCUSSION

### 1. Organoleptic examination

It can be concluded that in formulations 1, 2 and 3 the color change occurs due to the effect of different formulations, namely in formulation 1 only uses vaseline flavum base, in formulation 2 only uses adeps lanae base while formulation 3 adeps base and vaselin flavum are put together. For the smell in formulation 1, there is a distinct fishy odor from the albumin extract of catfish (*Clarias sp* ) in formulation 2 which is not much different, there is only a slight rancid odor. Meanwhile, formulation 3 is the same as formulation 2, namely a slightly rancid fishy smell. It can be concluded that catfish albumin extract only slightly affects the odor of the three formulations. The texture of the ointment preparations has a slight difference. In formulation 1, the texture of the ointment preparation is soft, semi-solid and sticky. This was influenced by the use of vaseline

album base. In formulation 2 there is a change, namely the texture is very soft, semi-solid and slightly sticky. This is influenced by the addition of adeps lanae base. In formulation 3 the texture of the preparation is very soft, slightly sticky and semi-solid. The texture is influenced by a mixture of 2 bases, namely vaselin flavum and adeps lanae. It can be concluded that the vaseline base and adeps lanae can affect the texture of each formulation and its thickness.

## 2. Homogeneity

Therefore it was concluded that, the basis of adeps lanae and vaselin flavum affected the presence of large and small particles and did not affect the presence of foreign particles, insects and fleas. For homogeneity, Vaseline flavum is not very suitable as an ointment base for catfish albumin extract because it is not homogeneous. For adeps lanae it is very suitable to be used as an ointment base for catfish albumin extract. The mixture of Vaseline flavum and Adeps showed good and homogeneous results.

## 3. Spreadability Test

In formulation 1 the spreadability of the ointment has an average width of 5.16 cm for formulation 2 the width of the average spread of the ointment is 5.23 cm for formulation 3 it has an average ointment of 5.06 cm. In the base 1 formulation used, namely Vaseline flavum, it can be seen from the data above that it shows that Vaseline has good spreading power as indicated by the spreading power values according to the standards. In the 2-base formulation used, namely adeps, it can be seen from the data showing that adeps has perfect dispersion by meeting the specified standard values. In the 3 base formulation used, namely a mixture of vaseline and adeps. The results show that the mixture of the two bases has a standard value. It can be concluded that the spreadability of Vaseline and Adeps ointment bases is very good.

## 4. Stickiness Test

The results of the adhesion test of catfish albumin extract ointment showed that formulation 1 had an average adhesion of 3.19 seconds. The adhesion meets the requirements because in under 4 seconds the formulation uses vaseline flavum ointment base. Formulation 2 has an average of 2.27 seconds, this figure indicates that formulation 2 complies with the adhesion standard of the formulation using adeps lanae basis. Formulation 3 has an average adhesion of 3.24 seconds, the adhesion meets the requirements because under 4 seconds this formulation

uses a mixture of vaseline and adeps lanae. It can be concluded that the use of Vaseline and Adeps ointment base can affect the stickiness of the ointment.

#### 5. PH test

In the examination of the Ph test showed the results of pH 6 in all formulations . there is not the slightest difference. In formulation 1, the pH shows the number 6, the number indicates that formulation 1, which uses a vaseline flavum base, is in accordance with the skin pH standard. . In formulation 2, the pH shows the number 6, the number indicates that formulation 2, which uses an adeps lanae base, is in accordance with the skin pH standard. In the 3 formulation, the pH shows the number 6. The formulation consists of a mixture of vaseline flavum and adeps lanae bases. Formulation 3 shows the pH according to the standard. It can be concluded that the vaseline flavum and adeps lanae ointment base complies with the pH standard, which is number 7 and it can be concluded that all formulations are safe to use on the skin and do not have the potential to cause irritation.

#### **CONCLUSION**

In this study it was concluded that the albumin extract of catfish (*clarias sp*) fulfilled the ointment evaluation test with a variety of ointment bases. The evaluation tests carried out included organoleptic evaluation, homogeneity test, spreadability test, adhesion test, Ph test. It was proven in the test results of various formulations that almost all formulations met the standards except for formulation 1 which used vaseline flavum, but the preparations did not mix or did not blend.

Vaseline flavum and adeps lanae ointment bases have an effect on the evaluation test results. The very significant evaluation test results were found in the adhesion test, spreadability test, and pH test.

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