



The Mixture Of Yogurt And Strawberry Juice To Repair Blood Lipid Profile

Rince Alfa Fadri¹, Rilma Novita¹, Fadli Denzil¹, dan Kesuma Sayuti²

¹Program Study of Food Technology, Polytechnic of Agricultural, University of Andalas, 26271

Payakumbuh,, West Sumatera, Indonesia

E mail rince.alfa@yahoo.co.id

² Faculty of Medicine, University of Andalas

³ Faculty of Agricultural Technology, University of Andalas, Padang 25163, West Sumatera, Indonesia



INTRODUCTION

Many ways that can be used to reduce cholesterol concentration in the blood. Some studies indicated the *Lactobacillus* that is transferred from the media of laboratory (in vitro) into the body (in vivo properties) has the potential to reduce cholesterol in the blood [2]. The Mixture of yogurt and strawberry juice have ability to repair blood lipid profile [3]. Yogurt is one of probiotics dairy products that are processed through the process of fermentation by adding good cultures organism, one of them is lactic acid bacteria. Strawberry (*Fragaria chiloensis*) is a fruit herb plant that has two hundred tiny seeds per one fruit. Several phytochemical compounds that was found in strawberry fruit are *antisoianin*, *acid elagat*, *katelin*, *kuoerferin* and *kaemferol*. One of the *antisoianin* function is as antioxidants in the body to avoid *atherosclerosis*. *Antisoianin* works to hamper *aterogenesis* process by *oxidize* the LDL.



Research and development of *Lactobacillus* potential as probiotic cholesterol reductant mixed with strawberry juice need to be done to support community health. The purpose of this reasearch was measuring the mixture of yogurt and strawberry juice effectiveness to repair blood lipid profile.

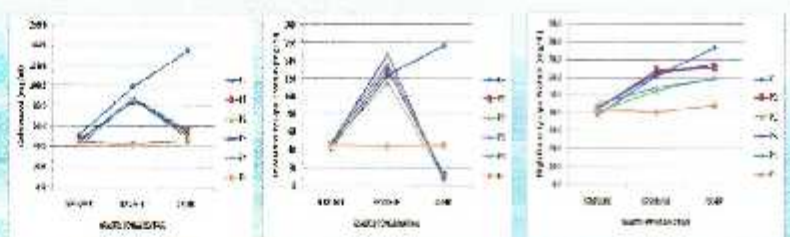
METHODE

Research design to be used was experimental by pretest and posttest *randomized control design*. This design was used to measure treatment effect in the experimental group by comparing that group with control group. This research sample was thirty white mice (*Rattus Norvegicus*). The sample divided to be six groups, one negative control group, one positive control group and four treatment groups. Sample size in this research was five mice for each group. Giving mixture of yogurt and strawberry juice was done per oral by gavage for about thirty days. *Spectra E Autoanalyzer* was the tool used to examine cholesterol total, Cholesterol LDL, and Cholesterol HDL in the blood. *Sandic needle* was used to inject yogurt and strawberry juice through experimental mice with the dosage 2 ml and 3 ml per day.

RESULT AND DISCUSSION

High cholesterol total could be reduced by yogurt and strawberry juice giving for thirty days. Mixed yogurt and strawberry juice giving drastically improved blood lipid profile of white mice. Average cholesterol level increasing after hypercholesterolemic feed giving and reduction cholesterol total level after yogurt giving, strawberry juice also yogurt mixed and strawberry juice is seen on Picture 1. In the other side mixed yogurt and strawberry juice giving, cholesterol LDL level (mg/dl) on the average before and after yogurt giving to the white mice treatment, strawberry juice also yogurt and strawberry juice for each treatment group had real reduction compared with positive control. Cholesterol LDL reduction is showed on the picture 2.

In the other hand, in the strawberry juice contains high vitamin c to increase HDL level that will sweep cholesterol LDL out, to increase throwed cholesterol speed in gall acid, prevent LDL oxydation so it helps preventing plaque formed on the vessels that may cause heart vessels to be clogged. Next it has function as pulmer so that increasing feces banishment where this case also to reduce reabsorption gali acid and its conversion to be cholesterol (Kurowska, 2002)



Picture 1 The Total Cholesterol Total Level Average (mg/dl) of white mice. Picture 2 The Total of Cholesterol LDL Level Average (mg/dl) of white mice. Picture 3 The Total of Cholesterol HDL Level Average (mg/dl) of white mice.

CONCLUSIONS

The Mixture of yogurt and strawberry juice can repair blood lipid profile, where it is proved to reduce drastically cholesterol total level, LDL in thirty days. Continuation reasearch is needed about antioxidant activities in strawberry and to examine any compounds that dominantly most in reducing cholesterol level.

REFERENCES

- R. D. Hatma., *Nutrient Intake Relation to Lipid Profiles in Diverse Ethnic Population and Their*, Disertation Post Graduate Program University of Indonesia, 2001
- A. Yuniastuti., *"Effect of Fermented Milk Lactobacillus casei strain Shirata on Serum Lipid Changes in the levels of Fraction Rat Hiperkolesterolemi."* Thesis, Disertation Post Graduate Program University of Diponegoro, Semarang, 2003
- R. A. Fadri., *"The effect of strawberry extract to lowering cholesterol"* Tesis. Disertation Post Graduate Program University of Andalas, 2010
- Kelompok Kerja Ilmiah (KKI) Phyto Medica., *" Guidelines Testing and Development Fitofarmak, Foundation for the Development of Natural Products Drug.* Jakarta. 1993
- F. Baraas, *Prevent Heart Attack By Pressing Cholesterol.* Cetakan Pertama. Gramedia. Jakarta. 1993

SAFE Network

Asian Pacific Network For Sustainability
Agriculture, Food and Energy

Executive Chair

Dr. Novizar Nazir

