

Durian Seed Starch and Spirulina to Lower Cholesterol Level in Mice

Desi Riana Prasetya, Anindita Diptya Kartika, Sabiludyn Raka Pradikta

SMAN 1 JEPARA, driana78@gmail.com

Introduction

During the last years the risk of coronary heart disease and stroke that caused by the levels of cholesterol in the blood exceeds the normal value has been increased, and society needs to find alternative ways to prevent these life-threatening diseases. We wanted to find an alternative way to lower cholesterol by proving that substances in Durian and Spirulina are potential to lower cholesterol in the blood.

Content

People in Jepara, Middle Java, Indonesia has an unique habit. They always held Durian's party with family and friends and it leaves a lot of Durian seeds. Some people believe that Durian seed has an ability to prevent stroke so they consume it by boiling them. By this habit we are doing experiment to prove the capability of Durian seed starch to lower cholesterol level scientifically. We also compare with the capability of Spirulina platensis which contains high of Omega-3 in lowering cholesterol level in mice.

1.1 Purpose of Investigation

To prove that Durian seed starch and Spirulina platensis are capable to lower the level of cholesterol in mice and to find out most effective food formulation to lowering cholesterol in mice.

1.2 Method of Investigation

We created an experiment that consist of four sections: the process of making seed starch, the process making food formulation, provision of treatment, the process of cholesterol test. We do acclimatization process for 14 days to our 15 mice sample. We divide the sample into 5 groups. Each group consist of 3 mice and are given different food formulation. We give food to the mice 5 grams a day.

- Group I : commecial food (pellets)
- Group II : pellets + quail eggs
- Group III : pellets + quail eggs + durian seed starch
- Group IV : pellets + quail eggs + spirulina
- Group V : pellets + quail eggs + durian seed starch + spirulina

The blood of the mice are examined after being fed for 28 days in treatment process using Stick Cholesterol Test method to find out the sample cholesterol levels and to determine the effective food formulation.

Results

No	Cholesterol Levels (mg / dL)				
	G I	G II	G III	G IV	G V
1	178	208	116	160	100
2	222	138	100	191	151
3	133	195	160	168	108
Average	177.67	180.33	125.33	159.67	119.67

Fig.1 The result of cholesterol test

Group V with the combination of Durian seed starch and Spirulina has the lowest average number of cholsterol level.

Discussion

Durian seed starch contains high of amylopectin that is be able to prevent the inflammation caused by the pile of cholesterol in blood vessels. Spirulina platensis contains high of omega-3 which may reduce LDL or bad cholesterol in blood.

References

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