

## Acknowledge the receiving of your paper (IJPSR/RA-13275/10-19)

Editor IJPSR <editorijpsr@gmail.com>  
Kepada: elis.susilawati@bku.ac.id

4 Oktober 2019 12.21

Dear Dr. Elis Susilawati

This is to acknowledge the receiving of your paper '**THE EFFECT OF KEREHAU LEAF EXTRACT (CALLICARPA LONGIFOLIOLAMK.) ON LIPID RATIOS AND AORTA HISTOPATHOLOGY OF MALE RATS OF WISTAR STRAIN**'. Your article will be sent at the editorial board's desk for reviewing and after their comments it will be reverted back to you for correction if needed.

Kindly note your reference number- **IJPSR/RA-13275/10-19** and save this number for further correspondence. Selection of online publication of your manuscript totally depends upon the reviewing of the reviewer.

Selection of online publication of your manuscript totally depends upon the reviewing of the reviewer. You are requested to send the signed copyright form within 1-2 days. Please find [Copy Right](#) Form at our website [www.ijpsr.com](http://www.ijpsr.com) in **Instructions to Authors** section at end of the page.

Only after the copyright form is received duly signed by all author(s), your article will be forwarded for Reviewing Process to the Reviewer otherwise your article will not be considered for publication in IJPSR.

If you would like to receive **IJPSR updates**, you may follow us on **Facebook** <http://www.facebook.com/IJPSR>, **Twitter** <http://twitter.com/IJPSR> and **Linked in**.

Regards,

**Mrs. Monika Sabharwal**

Managing Editor

International Journal of Pharmaceutical Sciences and Research (IJPSR)

[E-ISSN: 0975-8232; P-ISSN:2320-5148]

A Thomson Reuters - ESCI Indexed Journal

[Projected Impact Factor \(2018\): 0.83](#)

[www.ijpsr.com](http://www.ijpsr.com)

---

### **Our other monthly publications**

**International Journal of Pharmacognosy (IJP)**

E-ISSN: 2348-3962; P-ISSN: 2394-5583

[www.ijpjournals.com](http://www.ijpjournals.com)

**International Journal of Life Sciences and Review (IJLSR)**

E-ISSN: 2394-9864

[www.ijlsr.com](http://www.ijlsr.com)



Received on 30 November 2018; received in revised form, 16 March 2019; accepted, 29 March 2019; published 01 August 2019

## THE INFLUENCE OF ETHANOL EXTRACTS OF RAMBUTAN LEAVES (*NEPHELIUM LAPPACEUM* L.) AGAINST OBESITY AND INSULIN RESISTANCE IN RATS

Elis Susilawati<sup>\*</sup>, Ika K. Sukmawati, Noranisa, Nur Sri Hayati and Widhya Aligita

Department of Pharmacology, Bandung School of Pharmacy, Bandung, West Java 40614, Indonesia.

### Keywords:

Obesity,  
Insulin resistance,  
*Nephelium lappaceum* L.

### Correspondence to Author:

Elis Susilawati

Department of Pharmacology,  
Bandung School of Pharmacy,  
Bandung, West Java 40614,  
Indonesia.

E-mail: elis.susilawati@stfb.ac.id

**ABSTRACT:** Ethanol extracts of rambutan leaves have been investigated for their anti-diabetes properties using the glucose tolerance method as well as insulin deficiency through alloxan induction. This study aimed to further evaluate these properties in obese and insulin resistant animals. The rat models were feeding with foods high in carbohydrates, fats, and propylthiouracil. The animal models were divided into seven groups: normal group, the positive control group, rambutan leaf extract at doses of 17.5, 35, and 70 mg/kg b.w., and the orlistat and metformin groups. The parameters evaluated during therapy were body weight, food index, feces index, and blood glucose levels. The rambutan leaf ethanol extract at a dose of 17.5 mg/kg b.w. resulted in a decrease in body weight by 2.44% compared to the initial body weight and could also decrease appetite with the amount of food intake equal to 10.71 g compared with the positive test group at 12.49 g. The rats administered 35 mg/kg b.w. rambutan leaf ethanol extract excreted 6.29g of feces and exhibited a decreased organ and fat index in the liver, spleen, and perirenal fat. In the anti-diabetic test, the blood glucose level was increased 123 mg/dL, but diabetes mellitus and insulin resistance had not yet occurred following administration of 17.5 mg/kg bw rambutan leaf ethanol extract, although the blood glucose level was lower compared with the positive test group (93 mg/dL). In conclusion, the rambutan leaf ethanol extract was shown to decrease body weight and blood glucose levels in rats.

**INTRODUCTION:** The incidence of overweight and obesity is increasing rapidly in different parts of the world. Obesity has become an epidemic by contributing to 35% of pain and 15–20% of deaths in developed countries. Death is not always directly caused by obesity, but obesity can cause serious health problems that can result in a metabolic disorder; cardiovascular, kidney, and prothrombin issues; as well as an inflammatory response<sup>1</sup>.

According to the World Health Organization (2011), obesity is characterized as excessive or abnormal fat build-up that can impair health. Complex related etiology, *i.e.*, genetic factors, metabolism, living habits, eating habits, activities, and socio-cultural and economic factors, occur in people with obesity<sup>2</sup>.

Diabetes mellitus is one complication that can arise as a result of obesity. Diabetes mellitus is a chronic disease that occurs when the pancreas is no longer able to produce insulin, or when the body cannot use the insulin that is produced. Insulin is a hormone produced by the pancreas that functions to allow glucose from the foods we eat to pass through the bloodstream into cells in the body to produce energy.

	<p>QUICK RESPONSE CODE</p>
	<p>DOI: 10.13040/IJPSR.0975-8232.10(8).3672-78</p>
<p>The article can be accessed online on <a href="http://www.ijpsr.com">www.ijpsr.com</a></p>	
<p>DOI link: <a href="http://dx.doi.org/10.13040/IJPSR.0975-8232.10(8).3672-78">http://dx.doi.org/10.13040/IJPSR.0975-8232.10(8).3672-78</a></p>	