



Nutritional Synergi in Chocolate and Fig Product: Health-Snack Innovation for Diabetics and Obesity

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ABSTRACT

This study reveals the potential for nutritional synergy in the development of a healthy snack product called Coklat Tin which combines chocolate and fig (*Ficus Carica*). Chocolate and figs have bioactive components that promise health benefits. Flavonoids in chocolate act as antioxidants that support cardiovascular health, although you need to watch out, consumers have the potential to suffer from diabetes and obesity if chocolate is consumed in excess. Figs are rich in *thiamine, flavonoids, calcium, potassium, and benzaldehyde* compounds, which have the potential to lower cholesterol, improve heart function, and fight cancer cells. The study's innovative approach involves the formulation of chocolate with the addition of figs, creating a healthy snack alternative that is relevant for various groups, including diabetics and obese people. The research methodology includes the selection of raw materials, formulations, and sensory tests. Laboratory tests measure the content of *flavonoids, thiamine, calcium, potassium, and benzaldehyde* compounds in the product. The clinical trial involved normotensive, hypertensive, diabetic, and obese subjects, observing blood pressure, blood sugar levels, and body weight after consuming Coklat Tin regularly. The results showed that Coklat Tin has the expected and significant nutritional content. In clinical trials, the consumption of tin chocolate showed a decrease in

blood pressure in hypertensive and normotensive subjects. Diabetics and obese people who consume Coklat Tin experience a positive decrease in blood sugar levels and body weight. The nutritional synergy in the Coklat Tin product illustrates an innovative approach in utilizing the nutritional content of cocoa and figs for the development of healthy snack products and offers the potential to address the nutritional needs of various consumer groups and promote a healthy lifestyle. By emphasizing its health benefits, Coklat Tin has the potential to become an attractive alternative in fulfilling the need for healthy, delicious, and useful snacks.

BIOGRAPHY

Alfi Arif completed his Doctoral in Accounting at the age of 52 from the University of Diponegoro, Indonesia. He is the head of the accounting department laboratory of the University of Jember, Indonesia in 2022. He has more than 30 international and national publications that have been cited more than 300 times, and his publication's h-index is 7. He has been uploading an international proceeding. He has 4 certified as a sustainability reporting specialist, chartered accountant of Indonesia, competency internet of things, and data science fundamentals.



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