



NURSING ENTREPRENEURSHIP OPPORTUNITIES THROUGH PRODUCT INNOVATION JELLOWRY: LOW-CALORIE JELLY WITH TAMARINDUS INDICA LEAF EXTRACT AS A HEALTHY FOOD VARIATION FOR REDUCING WEIGHT AND CALORIES FOR OBESITY PATIENTS

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ABSTRACTS

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Porang flour is a product produced from the tubers of the porang plant (*Amorphophallus oncophyllus*). This porang plant grows in various tropical and subtropical regions of the world, especially in Southeast Asia. Porang flour has long been used in various food, industrial and health applications, because it has a variety of important functions. The aim of making jellowry to create an innovative Local Kojelly product is to overcome obesity through a variety of healthy foods to reduce weight and calories and support the Indonesian Ministry of Health program GERMAS (healthy living community movement) as one way to overcome obesity. Forms of entrepreneurial activity include the preparation, implementation, packaging and evaluation stages of Jellowry products. The target users of the product are the target users of Jellowry's innovative products are the general public aged 1-60 years (including the elderly, children over 1 year old, pregnant women & breastfeeding mothers) and especially obesity and diabetes sufferers. The results of the activity show that the use of Jellowry products has a positive impact on society.

Keywords: healthy food, nursing entrepreneurship, obesity

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1. INTRODUCTION

The obesity epidemic is the biggest global public health challenge, obesity is ranked in the top three causes of chronic health problems, the phenomenon of obesity in the world has more than doubled since 1980 (WHO, 2023). Indonesia has 13.5% of adults aged 18 years and over who are overweight, while 28.7% are obese (BMI > 25) and based on the 2015-2019 RPJMN indicators, 15.4% are obese (BMI > 27). Meanwhile, 18.8% of children aged 5-12 years are overweight and 10.8% are obese (Ministry of Health of the Republic of Indonesia, 2019).

Obesity is excessive fat accumulation due to an imbalance of energy intake (energy intake) with energy used (energy expenditure) over a long period of time (WHO, 2023). The impact of obesity causing a stomach circumference of a certain size (men > 90 cm and women > 80 cm) will have an impact on increasing triglycerides and decreasing HDL cholesterol, increasing blood pressure (metabolic syndrome), apart from that, causing other chronic and non-communicable diseases such as worsening asthma, knee and hip osteoarthritis cancer, gallstone formation, sleep apnea, low back pain, diabetes mellitus (DM), heart disease, stroke, hypertension, pinched nerves and others (Ministry of Health of the Republic of Indonesia, 2019; WHO, 2023; Hasan, 2021; Ghosh, 2021; Fenger, K.N. et al, 2020. Ashton, 2019).

Transforming the national health system through preventive and promotive programs will have an impact on improving the quality of public health. Meanwhile, if the country's morbidity rate rises, both government and private hospitals will not be able to cover the country's health costs. The aim of preventive and promotive programs is so that the country does not experience a crisis/the state's inability to bear the huge health costs of all its citizens (such as the case of Jiwasraya which went bankrupt), lest the health system in Indonesia goes bankrupt.

Based on the above phenomena and background, obesity prevention is a preventive and promotive solution to prevent non-communicable and chronic diseases. So our team is interested in creating an alternative solution to prevent obesity through the JELLOWRY food innovation: Low-calorie jelly with *Tamarindus indica* leaf extract as a healthy food variation to reduce weight and calories for obese sufferers.

According to several studies, obesity can cause hyperlipidemia which contributes to an increased risk of heart failure complications. Although many drugs are currently used for weight loss, orlistat (lipase inhibitor) is one drug that is effective and safe enough for treating

obesity and cardiovascular diseases such as heart failure. However, several studies say that orlistat has the side effects of cholelithiasis and acute pancreatitis. These side effects have encouraged the search for alternative medicines made from natural ingredients that are cheaper with minimal side effects and some have tried them successfully.

Awareness of the importance of health is still quite worrying. This is the background for us to create a product, namely JELLOWRY. JELLOWRY, is a variety of healthy food whose aim is to be used as a functional food innovation that addresses the problems of obesity and diabetes in Indonesia, with the ingredients obtained from porang tuber flour and tamarind leaf extract itself. JELLOWRY is a ready-to-eat/consumable jelly, packaged in pouch packaging so that it is efficient and practical for consumers to consume and easy to carry anywhere. Apart from that, JELLOWRY has a variety of flavors which of course add to the enjoyment of eating it.

2. METHODS

The method for this activity is divided into 3 preparation stages, implementation stage, and evaluation stage.

2.1 Preparatory stage

In the preparation stage, the team discusses technical matters such as the target community, prepares tools and materials, then prepares a recipe for the product.

2.2 Level of Implementation

At this stage the team first carried out Trial & Error twice, then the team made production in increasing quantities with each production.

2.3 Evaluation Stage

At this stage an evaluation is carried out. Evaluation includes several aspects, including evaluation of the provision of tools and materials, implementation of production, implementation of program management. Activity evaluations are carried out once a week to report and measure the progress of the business we run.

3. RESULTS AND DISCUSSION

The emergence of the idea for the JELLOWRY product is a functional food innovation that addresses the problem of obesity and diabetes with ingredients obtained from porang tuber flour and tamarind leaf extract, packaged in pouch packaging so that it is efficient and

practical for consumption. JELLOWRY has orange and strawberry flavor variants which of course add enjoyment when eating it.



Figure 1. JELLOWRY Product Design

1. Product Advantages

The other advantages of JELLOWRY are as follows:

Superiority	Description
Ingredients/ Composition/ Nutritional content	<ul style="list-style-type: none"> ● There is porang tuber flour <i>oramorphophallus muelleri</i> which contains glucomannan so that it can support programs to reduce weight, BMI, fat and inhibit the increase in total cholesterol & triglyceride levels for obese sufferers. ● Tamarind leaf extract <i>ortamarindus indicawhich</i> 53inders-<i>amilase</i>, so it can be used as an alternative treatment for type 2 diabetes mellitus.
Calorie Count and Sugar	Low in calories and sugar
Price	Cheap and quite affordable
Consumer	Affordable all over circles, can consumed by people with obesity and diabetes or people who healthy to prevent obesity

Table 2. JELLOWRY Product Advantages

2. Business Prospect Analysis

The business prospects of JELLOWRY as a weight loss product for obese sufferers are assessed through a SWOT (Strength, Weakness, Opportunity, Threat) analysis as follows:

Strength	<ul style="list-style-type: none"> ● The public's need for functional foods that can improve health status. ● This innovative product is not yet sold on the commercial market ● Has a big positive impact on the environment,
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	<p>especially in the health sector</p> <ul style="list-style-type: none"> ● Environmentally friendly because it is made from natural ingredients ● Natural product without artificial preservatives
Weakness	Product shelf life is 4 weeks at room temperature
Opportunities	<ul style="list-style-type: none"> ● As a healthy and filling food solution for obesity and diabetes sufferers ● There are no competitors who utilize the ingredients in the product composition.
Threat (<i>Threat</i>)	<ul style="list-style-type: none"> ● There is competition abroad which makes products similar to products using the same raw materials. ● Raw materials are difficult to find, only available in online shops

Table 3. Business Prospects in SWOT Analysis



Figure 2. Implementation of activities

Activities based on figure 2 above, the implementation of JELLOWRY activities lasts for 3 months. Jellowry is expected to be a superior product because of its extraordinary benefits, with a product that is low in calories and low in sugar, this product really helps people who are on a diet to reduce obesity, and can also be used for people who have type 2 diabetes because it is low in

sugar. 140 JELLOWRY products have been produced and sold in the period 6 September – 5 October 2023.

Jellowry product manufacturing activities are carried out in the following stages:

A. Planning Stage

In this planning process we conducted online and offline market surveys. Surveys. This is done offline because team members are far away from each other. Market surveys are carried out by looking for price comparisons of raw materials, production equipment and collecting competitor data, analyzing competitors' advantages and disadvantages. Not only conducting market surveys, we also carry out innovation planning analysis to develop our business in the future.

B. Preparation phase

a. Preparation of place

The production process is carried out in the Gizi laboratory, this is done to reduce pressure so that the product remains hygienic. Preparation of the place includes cleaning kitchen to keep clean kitchen to keep clean that will affecting product quality and hygiene. The production process is carried out by implement standard health protocols.

b. Preparation of tools and materials

Purchases of tools and materials are made online and offline with consider the price and quality of materials or goods. Offline purchases carried out by implementing standard health protocols.

C. Production process

- a. Making tamarind extract
- b. Making Strawberry fruit extract
- c. Making orange fruit extract
- d. JELLOWRY Production

D. Packaging, Promotion and Sales Process

This stage is the publication and marketing stage carried out directly to consumers around the environment and in the future, there will be marketing in public facilities, one of which is sports venues and utilizing online sales using social media such as Instagram, WhatsApp, Tiktok and Facebook as well as e-commerce such as Shopee. Furthermore, we will collaborate with campus canteens and health facilities.



Figure 3. Jellowry product packaging

4. CONCLUSION

Implementation of the health product innovation program, JELLOWRY: *Jelly Low-calorie With Leaf Extract Tamarindus Indica As a Healthy Food Variation for Lowering Weight and Calories for Obesity Sufferers*, this is an entrepreneurial funding grant for 2023 through the Student Creativity Program (PKM) - in the field of Entrepreneurship, PKM is a program of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia. Development of Jellowry Product innovation namely (1) *Creating innovative healthy food products JELLOWRY: Low-calorie jelly can provide benefits to the wider community*, (2) *as a preventive and promotive solution to prevent non-communicable and chronic diseases supporting the Indonesian Ministry of Health program GERMAS (healthy living community movement)*, (3) *Creating entrepreneurial opportunities and new business opportunities and products that are solutions for people suffering from obesity.*

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