The Benefits of Processed Purple Sweet Potato (*Ipomoea batatas* L. *poir*) in Increasing Nutritional Intake

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Abstract. *Purple sweet potato* is a vine that grows a lot in Indonesia and is used in various local food preparations because it contains high nutrients. Objective: to review the benefits of various processed foods from purple sweet potatoes in increasing nutritional intake. Method: a literature review of published articles from Science Direct, PubMed, Neliti, and Google Scholar, with 25 shortlisted articles. *Purple sweet potatoes* contain nutrients that can replenish daily energy sources such as carbohydrates, fats, and proteins. Other ingredients include high anthocyanins, fiber, vitamins A, B12, and C, and minerals; Ca, Fe, Mg, K, and Zn. Purple sweet potatoes are used for traditional and modern food preparations. Some of these processed foods are biscuits, sponges, brownies, snack bars, fit bars, noodles, waffles, flaky crackers, pasta, croquettes, and MP-ASI. Conclusion: the benefits of processed purple sweet potato foods in various forms contribute to adequate nutritional intake, the importance of a good processing process, because the heat process will affect its nutritional content.

1 Introduction

*Purple sweet potato* (*Ipomoea batatas* L. *poir*) is a vine that grows a lot in Indonesia. The quality of sweetness is just right if it is harvested according to its timeliness. So it is widely used in various preparations because it contains many nutrients. The diversity of local Indonesian food is the gateway to a diverse diet. By eating a varied diet, people can get all the nutrients they need and reduce the risk of stunting in children because their nutritional intake has been met. Local food consumption supports biodiversity conservation by encouraging communities to protect their food sources.
PSP is a healthy and nutritious tropical root plant. It is the fourth group of carbohydrate sources after rice, corn, and cassava, but this ingredient is underutilized as an abundant local food in Indonesia. Local food preparations made from PSP began to be modified along with the times. Novelty is carried out through biofortification to add nutritional value to products through agronomic management and genetic improvement, conventionally so it can affect consumer health. This plant also grows quickly, so that it can meet the availability of long-term consumption.

With its high nutrition and abundant availability, PSP can be used as a means of development, renewal, and innovation for the community. Become a source of productive income by processing PSP as a marketable national standard flour.

The effort could also help promote healthy, nutrient-rich local food and boost increasingly popular culinary tourism. The processing process varies from traditional to modern without reducing the nutrients present in PSP. Several studies have seen purple sweet potatoes used as a varied local snack product, to get a look and taste that attract consumers.

2 Methods

This literature study blunts data from the relevant literature. So as to get a better understanding of the benefits of processed foods from PSP and their relation to increased nutritional intake. The main databases used for this article are Science Direct, PubMed, Neliti, and Google Scholar. The criteria for inclusion of sources are; discusses the types, benefits, and nutrients of processed PSP. The criteria for source exclusion are: does not discuss or highlight the types, nutrients, and benefits of processed PSP. Processed foods with nutrients brought by PSP are carefully discussed. This literature study collected 25 articles using relevant keywords that focused primarily on research progress and highlighted PSP processed foods as a good nutritional intake.

3 Results

Table 1. Processed food and benefits of purple sweet potatoes as nutritional intake.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author/years</th>
<th>Processed Products</th>
<th>Results</th>
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<tbody>
<tr>
<td>Fitbar Bingu (Purple Sweet Potato)</td>
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<td>Fit bar</td>
<td>Affects toddler weight wasting, the average result of weight gain is 0.24 kg with SD 1.504.</td>
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<td>The Effect of Giving Purple Sweet Potato Biscuits and Biscuits (PMT) on Increasing the Upper Arm Circumference of Pregnant Women with Chronic Energy Deficiency (SEZ)</td>
<td></td>
<td>Cookies</td>
<td>Affects the nutritional status of pregnant women, chronic lack of energy with an average increase of 0.7 cm.</td>
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<td>Stunting Prevention Efforts through the Utilization of Local Food Sweet Potatoes to Increase Nutritional Intake of Pregnant Women</td>
<td></td>
<td>Noodle</td>
<td>Contributes to the daily nutritional needs of pregnant women’s energy by 16.8%, protein by 18.3%, and carbohydrates by 23.4%.</td>
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</tbody>
</table>
| The Effect of Giving Purple Sweet Potatoes (Ipomoea batatas L. poiret) on Increasing the Circumference of the Upper Arm of Pregnant Women with Chronic Energy Deficiency | | Steamed PSP | Does not affect the increase in arm circumference of pregnant women with chronic energy deficiency, 01020 (2024)BIO Web of Conferences 96, 01020 (2024) https://doi.org/10.1051/bioconf/20249601020
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<tr>
<td>Changes in Purple Sweet Potato Biscuits (Ipomoea batatas L.) Enriched with Nutritional Yeast</td>
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<td>Nutrition Education and Purple Sweet Potatoes on Increasing Haemoglobin Levels in Third Toddlers</td>
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<td>The Effect of Giving Purple Sweet Potatoes as MPASI Processing</td>
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<td>The International Journal of Nutrition and Food Science</td>
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<td>Affects the increase in hemoglobin Activity in Women</td>
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<td>Affects daily energy and iron levels of anemic pregnant women 0.58</td>
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<td>Affects the average body weight and 12 months by 52% energy, 12% fat, 65.8% of vitamin B12.</td>
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<td>Contributes to the daily nutritional intake of 37.26% carbohydrate, 11.32% protein, 15.179% fat, 7.035% protein, 16.8% energy, 18.6% carbohydrates, 11.4% protein, 14.8% fat, and 29.4% of 41.84% water, 1.94% ash content, 7.17% crude fiber content, and 81.65%</td>
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<td>Contribute to the body's daily nutritional intake as complementary foods for infants 6 months.</td>
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<td>Affects the daily nutritional intake of 37.26% carbohydrate, 11.32% protein, 15.179% fat, 7.035% protein, 16.8% energy, 18.6% carbohydrates, 11.4% protein, 14.8% fat, and 29.4% of 41.84% water, 1.94% ash content, 7.17% crude fiber content, and 81.65%</td>
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<tr>
<td>Contributes to the daily nutritional intake needs of 54.758% carbohydrates, 7.035% protein, 15.179% fat, 7.17% crude fiber content, and 81.65%</td>
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<td>Contributes to the daily nutritional intake needs of school children by 10%</td>
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<td>Addition of Purple Sweet Potato Flour (Ipomoea batatas L. var. Ayamurasaki) to the Flour (Ipomoea batatas L.)</td>
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<td>Flaky Crackers</td>
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<td>Steamed Cookies</td>
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Chemical Profile of Complementary Foods of Breast Milk with Utilization of Purple Sweet Potato Starch Ultrasonic Modification Method

The nutritional intake of infants as a companion to breast milk by 16.87% protein and 76.88% carbohydrates, not with fat which is still low at 1.66%.

Development of Steamed Brownies of Taro Flour - Sprouted Mung Bean and Steamed Purple Sweet Potato (Talahibu) for Chronic Energy Deficient Pregnant Women (SEZ)

Brownies Filling nutritional intake 419.83 kcal of energy, 45.57% carbohydrates, 25.7% fat, and 1.63% protein

Acceptability and Nutritional Content of Cukke Sponge Cake Substitute for Purple Sweet Potato Flour Cake Filling the daily nutritional intake of toddlers and pregnant women as an alternative to PMT with 7.4% protein, 2.2% fat, and 32.6% carbohydrates.

Biscuits from Purple Sweet Potato Flour, Green Beans, and Moringa Leaves for Toddlers

Cookies Filling the daily nutritional intake needs of toddlers amounting to 482.28% energy, 9.35% protein, 23.11% fat, 59.35% carbohydrates, 3.75% water, 2.7% ash content, and 513.3 mcg of vitamin A.

Organoleptic Analysis and Nutritional Content of Biscuits Based on Purple Sweet Potato and Seaweed Flours

Contributes to the body's daily nutrient intake of 70.35% carbohydrates, 9.70% protein, and 4.14% water content.

Giving of Purple Sweet Potato Crokets (Ipomoea batatas) as Additional Foods for Increasing Protein Energy Intake and Nutritional Status of School Children at SDGim Sion Malalayang

There is no effect of giving purple sweet potato croquettes on the nutritional status of children aged 7-12 years.

Macro and Micronutrients of Purple Sweet Potato Flour as Material Raw Complementary Feeding

MP - ASI Contributes to the daily nutritional intake of infants by 80.02% carbohydrates, 6.05% protein, 0.76% fat, 6.7049 mg/kg Fe, and 8.5595 mg/kg zinc.

The Sensory, Physical, and Nutritional Quality Profiles of Purple Sweet Potato and Soy-Based Snack Bars for Pregnant Women

Snack bar Contributes to the daily nutritional intake of 13.28% protein, 38.06% carbohydrates, 19.34% fiber, 7.33 mg/kg iron, 366.71 mg/kg calcium, and 222.54 μg folic acid.

Development of Healthy Biscuits from Purple Sweet Potato Containing High Resistant Starch

Cookies Contributes to the daily nutritional intake of 87.07% carbohydrates, 0.87% fat, 5.80% protein, 19.20% fiber, 2.79% ash, and 5.47% water.

Table 1 that several studies using the same type of food have different results but still show positive results can increase the intake of nutrients such as carbohydrates, proteins, fats, and vitamins and minerals.

Differences in nutritional levels also vary according to the weight and ingredients used in making the food. Then some studies show that there is no influence whatsoever on nutritional status or nutritional intake.
4 Discussions
5 Conclusions

Various processed foods made from PSP contribute to meeting the needs of daily nutritional intake. Each variant of purple sweet potatoes and processed products has different nutrients. The addition of other food ingredients will provide enough nutrients that are beneficial for the body's nutritional intake and have a good antioxidant effect.

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