

## **ANALISIS PROTEIN DAN FE KUKIS TERSUBSTITUSI TEPUNG UBI JALAR ORANYE (IPOMEA BATATAS) DAN TEPUNG DAUN KELOR (MORINGA OLEIFERA) UNTUK IBU HAMIL ANEMIA**

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### **INTISARI**

**Latar Belakang:** Permasalahan anemia kerap terjadi pada ibu hamil dan disebabkan oleh berbagai faktor, salah satunya adalah perubahan kondisi fisiologis pada tubuh ibu hamil. Ibu hamil mengalami peningkatan kebutuhan zat gizi, termasuk protein dan zat besi (Fe). Jika kebutuhan tersebut tidak terpenuhi dengan baik, hal tersebut dapat memperparah kondisi anemia pada ibu hamil. Salah satu upaya yang diharapkan dapat mengoptimalkan pemenuhan kebutuhan gizi, terutama protein dan zat besi (Fe), adalah pembuatan produk pangan selingan berupa kukis tersubstitusi tepung ubi jalar oranye dan tepung daun kelor. Oleh karena itu, perlu dilakukan analisis kandungan protein dan zat besi (Fe) pada kukis tersubstitusi tepung ubi jalar oranye dan tepung daun kelor.

**Tujuan:** Mengetahui kadar protein dan Fe kukis dengan substitusi tepung ubi jalar oranye dan tepung daun kelor pada formula A, B, dan C.

**Metode:** Jenis penelitiannya merupakan penelitian eksperimental dengan rancangan acak lengkap (RAL) yang terdiri atas tiga perlakuan. Tiga perlakuan tersebut memiliki perbandingan tepung terigu : tepung ubi jalar oranye : tepung daun kelor sebesar 100:0:0 (formula A, sebagai kontrol), 40:50:10 (formula B), dan 40:48:12 (formula C). Masing-masing formula dianalisis kadar protein dan Fe yang terkandung di dalamnya. Analisis kadar protein dilakukan dengan Metode *Kjeldahl* sedangkan analisis kadar Fe dilakukan dengan metode spektrofotometri serapan atom.

**Hasil:** Kadar protein pada masing-masing formula diantaranya adalah formula A 8,14 g/100 g, formula B 6,94 g/100 g, dan formula C 7,30 g/100 g. Kadar Fe pada masing-masing formula diantaranya adalah formula A 5,95 mg/100 g, formula B 6,51 mg/100 g, dan formula C 9,05 mg/100 g. Kadar protein kukis pada formula A berbeda signifikan dengan formula B dan C ( $p = 0,01$ ) sedangkan kadar Fe kukis pada formula A, B, dan C masing-masing saling berbeda secara signifikan ( $p < 0,001$ ).

**Kesimpulan:** Kadar protein pada formula A berbeda signifikan dengan formula B dan formula C. Kadar Fe pada ketiga formula berbeda secara signifikan. Formula dengan kadar protein tertinggi adalah formula A sedangkan formula dengan kadar Fe tertinggi adalah formula C.

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## ANALYSIS OF PROTEIN AND FE IN COOKIES SUBSTITUTED BY ORANGE SWEET POTATO FLOUR (IPOMEA BATATAS) AND MORINGA LEAF FLOUR (MORINGA OLEIFERA) FOR ANEMIC PREGNANT WOMEN

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### ABSTRACT

**Background:** Anemia often occurs in pregnant women and is caused by various factors, one of them is physiological changes of the pregnant woman's body. Pregnancy makes women's nutritional needs increase, including protein and iron (Fe). If these nutritional needs are not well fulfilled, it can worsen the condition of anemia in pregnant women. One of the solutions that are expected to optimize the fulfillment of nutritional needs, especially protein and iron (Fe), is cookies substituted by orange sweet potato flour and Moringa leaf flour. Therefore, it is necessary to analyze the content of protein and iron (Fe) in cookies substituted by orange sweet potato flour and Moringa leaf flour.

**Objective:** To determine the protein and Fe content of cookies with the substitution of orange sweet potato flour and Moringa leaf flour in formulas A, B, and C.

**Methods:** This study was an experimental research with completely randomized design (CRD) consisted of three treatments. Three treatments was cookies with a ratio of wheat flour: orange sweet potato flour: Moringa leaf flour of 100:0:0 (formula A, as control), 40:50:10 (formula B), and 40:48:12 (formula C). Analysis of protein content used the Kjeldahl method while the analysis of Fe content used the atomic absorption spectrophotometry method.

**Result:** The protein content respectively were formula A 8.14 g/100 g, formula B 6.94 g/100 g, and formula C 7.30 g/100 g. The Fe content respectively were formula A 5.95 mg/100 g, formula B 6.51 mg/100 g, and formula C 9.05 mg/100 g. The protein content of cookies in formula A was significantly different from formulas B and C ( $p = 0.01$ ) while the Fe content of formulas A, B, and C were significantly different from each other ( $p < 0.001$ ).

**Conclusion:** The protein content in formula A was significantly different from formula B and formula C. The Fe content in the three formulas were significantly different. The formula with the highest protein content was formula A while the formula with the highest Fe content was formula C.

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