**0354/ILMU GIZI**

**LAPORAN**

 **PENELITIAN TERAPAN UNGGULAN PERGURUAN TINGGI**

**(PTUPT)**

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**FORMULASI BAHAN MAKANAN CAMPURAN (BMC) DENGAN KOMPOSISI TEPUNG JAGUNG, TEPUNG BERAS MERAH DAN TEPUNG IKAN PATIN TERHADAP KADAR ZAT GIZI, INDEKS GLIKEMIK, KADAR KOLESTEROL, KADAR ZAT BESI DAN SERAT PANGAN PASTA.**

|  |  |  |
| --- | --- | --- |
| Peneliti Ketua | : | Teguh Supriyono, STP, M.Si |
|  |  | NIP. 19751218 200212 1 001 NIDN : 4018127501 |
| Anggota | : | Untung Halajur, S.Pd. M.KesNIP. 196512181985031002 NIDN : 4018126501 |

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**HALAMAN PENGESAHAN**

|  |  |  |
| --- | --- | --- |
| Judul | : | Formulasi Bahan Makanan Campuran (Bmc) Dengan Komposisi Tepung Jagung, Tepung Beras Merah Dan Tepung Ikan Patin Terhadap Kadar Zat Gizi, Indeks Glikemik, Kadar Kolesterol, Kadar Zat Besi Dan Serat Pangan Pasta. |
| Peneliti KetuaNama lengkap | : | Teguh Supriyono, STP, M.Si |
| NIP | : | NIP. 19751218 200212 1 001 NIDN : 4018127501 |
| Jabatan fungsional | : | Lektor |
| Program Studi | : | Prodi D III Gizi Poltekkes Kemenkes P.Raya |
| Nomor HP | : | 082148584886 |
| Alamat email | : | tegoehxobo@gmail.com |
| Anggota 1Nama  | :  | Untung Halajur, S.Pd, M.Kes |
| NIP | : | 196512181985031002 NIDN : 4018126501 |
| Program Studi | : | Prodi DIII Keperawatan Poltekkes Kemenkes Palangka Raya |
| Anggota 2Nama  | : |  |
| NIP | : |  |
| Program Studi | : |  |
| Tahun Pelaksanaan | :  | 2019 |
| Biaya Penelitian | :  | Rp. 35.000.000,- |

|  |  |
| --- | --- |
|  | Palangka Raya, 15 Oktober 2019 |
| Mengetahui,Kepala Unit Penelitian Poltekkes Kemenkes Palangka RayaDr. Marselinus Heriteluna,S.Kp,MANIP. 197105151994031004 | Ketua,Teguh Supriyono, STP, M.SiNIP. 197518122002121001 |
| Mengesahkan,DirekturDhini, M.KesNIP. 196504011989022002 |
|  |  |

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Indeks Glikemik (IG) adalah suatu ukuran yang digunakan untuk mengindikasikan seberapa cepat karbohidrat yang terdapat dalam makanan dapat diubah menjadi gula oleh tubuh manusia. Ukuran ini berupa skala dari 0-100. Sebagai contoh, gula murni misalnya memiliki angka indeks glikemik 100, ini berarti karbohidrat dalam gula murni sangat cepat diubah oleh tubuh menjadi gula untuk energi bagi tubuh. Indeks glikemik juga dapat menginformasikan bagaimana pengaruh makanan terhadap kadar gula darah dan insulin. Semakin rendah nilai indeks glikemik maka akan semakin sedikit pengaruhnya terhadap level insulin dan kadar gula darah.

Indeks glikemik beberapa bahan makanan sangat bervariasi, pasta atau mie yang terbuat dari *whole grain* lebih baik dan lebih rendah indeks glikemiknya. Akan tetapi beras merah atau beras hitam lebih baik daripada *whole grain*, baik dari kadar zat gizi terutama Fe dan serat serat lebih rendah indeks glikemiknya.

Penelitian ini bertujuan untuk membuat produk pasta alternatif yang memiliki indeks glikemik yang rendah tetapi juga mengandung zat gizi cukup baik, untuk mencegah timbulnya penyakit diabetes. Kombinasi antara beras merah, jagung dan ikan patin diharapkan mampu saling bersinergi membentuk produk pangan berbentuk pasta dengan komposisi gula yang rendah, indeks glikemik yang rendah, protein yang tinggi, mengandung zat besi dan serat pangan yang cukup serta produk yang praktis untuk disiapkan. Parameter untuk melihat karakter produk meliputi parameter kimia yaitu kadar protein, karbohidrat, kada zat besi dan serat pangan. Untuk melihat pangaruh dari indeks glikemik produk, kandungan Fe dan kandungan serat pangan dilakukan uji kadar glukosa, uji kadar Hb dan uji kadar kolesterol.

**SUMMARY**

The glycemic index (IG) is a measure used to indicate how fast carbohydrates contained in food can be converted into sugar by the human body. This size is a scale from 0-100. For example, pure sugar, for example, has a glycemic index number of 100, this means that carbohydrates in pure sugar are very quickly converted by the body into sugar for energy for the body. The glycemic index can also inform how food influences blood sugar and insulin levels. The lower the glycemic index value, the less effect on insulin level and blood sugar levels.

The glycemic index of some food items is very varied, pasta or noodles made from *whole grains* are better and lower in the glycemic index. However, brown rice or black rice is better than *whole grains*, both from the level of nutrients, especially Fe and fiber, the lower the glycemic index.

This study aims to make alternative pasta products that have a low glycemic index but also contain good enough nutrients to prevent diabetes. The combination of red rice, corn, and catfish is expected to be able to work together to form a food product in the form of pasta with a low sugar composition, a low glycemic index, high protein, containing enough iron and fiber and practical products to prepare. Parameters to see product character include chemical parameters, namely protein, carbohydrate, iron content, and dietary fiber. To see the effect of the product glycemic index, Fe content and dietary fiber content, glucose levels were tested, Hb levels and cholesterol levels were tested.

**ABSTACT**

The glycemic index of some food items is very varied, pasta or noodles made from *whole grains* are better and lower in the glycemic index. However, brown rice or black rice is better than *whole grains*, both from the level of nutrients, especially Fe and fiber, the lower the glycemic index.

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There is an influence of cornflour formulation, brown rice flour and catfish flour on glycemic index pasta with the average glycemic index value of products pasta being in a low category that is 45.61 (IG <55). There is an influence of cornflour, rice flour formulation red, and catfish flour which differ on the level of protein, pasta which ranges from 2.25-11.5%.