

Perbandingan efektivitas produk pangan padat gizi mengandung polifenol dengan produk pangan padat gizi tanpa polifenol dalam meningkatkan respon imun mencit = Comparison of effectiveness of nutrient-rich food product with polyphenol with nutrient-rich food product without polyphenol in enhancing immune response in mice

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Abstrak

[ABSTRAK

BPPT (Badan Pengkajian dan Penerapan Teknologi) memproduksi suatu bahan pangan padat gizi mengandung polifenol, yang ditujukan bagi korban bencana alam yang rentan akan kondisi penurunan respon imun akibat kelaparan.

Polifenol, pada beberapa penelitian disebutkan dapat meningkatkan respon imun.

Sebelum dikonsumsi, perlu dilakukan penelitian untuk melihat bukti efektivitas pangan ini terhadap respon imun. Penelitian dilakukan dengan menggunakan desain eksperimental. Sebanyak 24 mencit dibuat dalam kondisi lapar selama satu minggu. Lalu 6 ekor mencit diambil datanya sebagai acuan kondisi awal.

Kemudian sisa mencit dibagi dalam tiga kelompok perlakuan. Setiap kelompok, tetap dalam kondisi lapar, akan mengonsumsi bahan tambahan yang berbeda.

Kelompok pertama diberikan produk pangan padat gizi mengandung polifenol, sedangkan kelompok kedua diberikan produk pangan padat gizi tanpa polifenol, untuk melihat apakah polifenol memang mempunyai efek atau produk pangan padat gizi saja sudah dapat meningkatkan respon imun. Sebagai tambahan perbandingan, maka kelompok ketiga diberikan imunostimulan *Phyllanthus niruri*. Setelah 4 minggu dilakukan pengambilan data. Sebagai indikator respon imun digunakan data jumlah dan hitung jenis leukosit. Hasil penelitian menunjukkan bahwa tidak ditemukan perbedaan yang bermakna ($p > 0,05$) pada perbandingan perubahan jumlah leukosit dan hitung jenisnya dari ketiga kelompok perlakuan. Disimpulkan bahwa bahan pangan padat gizi mengandung polifenol belum menunjukkan bukti efektivitas yang lebih tinggi terhadap respon imun dibandingkan tanpa mengandung polifenol, namun bahan pangan padat gizi ini sudah cukup baik karena menghasilkan efek seperti imunostimulan *Phyllanthus niruri*.;

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ABSTRACT

BPPT (Badan Pengkajian dan Penerapan Teknologi) produced a nutrient-rich food product with polyphenols, for disaster victims that vulnerable to condition of depressing immune response because of starvation. Polyphenols, in some research could enhance immune response. Before applying, this food product needs a research to prove the effectiveness toward immune response. Research was done

with experimental design. 24 mice set in starving condition in one week. Then 6 mice were taken to get the beginning data. And then, the rest of mice was divided into three groups. Every group, stayed in starving condition, was given different additional materials. First group was given the nutrient-rich food product with polyphenols, and the second group was given the nutrient-rich food product but without polyphenols, to see whether the polyphenols gave the desired effect or the nutrient-rich food product alone could enhance immune response. For additional comparison, the third group was given the immunostimulant *Phyllanthus niruri*. The data was taken after 4 weeks. Total leukocyte and leukocyte differential count were used to be the indicator of immune response. The result showed that there is no significant differences ($p > 0,05$) in comparison of the change of total and differential count of leukocyte from the three groups. In conclusion, the nutrient-rich food product with polyphenols not yet show a significant effectiveness in immune response than without polyphenols, but this food product had been good enough because resulting the similar effect as immunostimulant *Phyllanthus niruri*.

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