

## ABSTRACT

Stunting in under-five years children are caused by some factors, that are low economic status, and inadequate intake of protein, albumin, zinc, and calcium which are important for the growth of under-five years children. Egg white is a food ingredient with high protein digestibility, while sesame seed and skim milk are high in protein, zinc, and calcium with a cheaper price. The substitution of these three ingredients was expecting to improve organoleptic quality, acceptability, and nutrients content, and would make nutrients economic value of ice cream cheaper.

This study was a true experimental design with completely randomized design. The organoleptic quality test conducted on 3 limited panelists with 5 ice cream formulas. The hedonic test conducted on 25 untrained panelist (the mothers) and children panelists (aged 2-5 years old) with 3 ice cream formulas. The analysis technique used descriptive and statistical analysis (*Friedmann* and *Wilcoxon* test)..

The hedonic test showed that the most preferred formula was ice cream F2 (8% egg white; 3% ground sesame; 6% skim milk) with an average of 3.22. The results of the *Friedmann* statistical test showed differences in the characteristics of taste ( $p = 0.044$ ), aroma ( $p = 0.002$ ), and overall ( $p = 0.043$ ). The content of protein, albumin, zinc, calcium per 100 g of F2 ice cream based on laboratory tests were 9.17 g, 1.33 g, 0.98 mg, 127.19 mg. The seliing price of F2 ice cream per serving (60 g) was IDR 6,500.00.

The best formula based on organoleptic quality, acceptability, nutrients content and economic value of nutrients was F2 ice cream. F2 ice cream was a product with high protein and zinc, and source of albumin and calcium. F2 ice cream had a higher protein content and cheaper protein price than chocolate ice cream in general.

Keywords : Ice cream, white egg, sesame seed, skim milk, stunting

## ABSTRAK

Stunting pada balita disebabkan oleh beberapa faktor, yaitu status ekonomi rendah, serta kurangnya asupan protein, albumin, seng, dan kalsium yang diperlukan untuk pertumbuhan balita. Putih telur merupakan bahan makanan yang daya cerna protein yang tinggi, wijen dan susu skim memiliki kandungan protein, seng, dan kalsium yang tinggi dengan harga yang lebih murah. Substitusi ketiga bahan tersebut diharapkan mampu meningkatkan mutu organoleptik, daya terima dan kandungan gizi, serta dapat membuat nilai ekonomi gizi es krim lebih murah.

Penelitian ini merupakan penelitian eksperimental murni dengan rancangan acak lengkap. Uji mutu organoleptik dilakukan pada 3 panelis terbatas dengan 5 formula es krim. Uji hedonik dilakukan pada 25 panelis tak terlatih (ibu balita) dan panelis anak-anak (balita usia 2-5 tahun) dengan 3 formula es krim. Teknik analisis menggunakan analisis deskriptif dan analisis statistik (uji *Friedmann* dan *Wilcoxon*).

Hasil uji hedonik menunjukkan bahwa formula yang paling disukai adalah es krim F2 (Putih telur 8%; wijen giling 3%; susu skim 6%) dengan rata-rata 3,22. Hasil uji statistik *Friedmann* menunjukkan adanya perbedaan pada karakteristik rasa ( $p = 0,044$ ), aroma ( $p = 0,002$ ), keseluruhan ( $p = 0,043$ ). Kandungan protein, albumin, seng, kalsium per 100 g es krim F2 berdasarkan uji laboratorium adalah 9,17 g, 1,33 g, 0,98 mg, 127,19 mg. Harga jual es krim F2 per porsi adalah Rp 6.500,00.

Formula terbaik berdasarkan mutu organoleptik, daya terima, kandungan gizi dan nilai ekonomi gizi adalah es krim F2. Es krim F2 merupakan produk tinggi protein dan seng, serta sumber albumin dan kalsium. Es krim F2 juga memiliki kandungan protein yang lebih tinggi dan harga protein yang lebih murah dibandingkan dengan es krim coklat di pasaran.

Kata Kunci : Es krim, putih telur, wijen giling, susu skim, stunting