

ABSTRAK

Ramadhani, Safira Nuri. 2014. **Kadar Air dan Jumlah Bakteri Formula Enteral Kombinasi Tepung Biji Kecipir (*Psophocarpus tetragonolobus* L.) dengan Tepung Jagung (*Zea mays*) (Kajian Jenis Kemasan Plastik LDPE dan PP).** Tugas Akhir. Program Studi Ilmu Gizi, Fakultas Kedokteran, Universitas Brawijaya. Pembimbing: (1) Dian Handayani, SKM, M.Kes, PhD. (2) Amalia Ruhana, SP., MPH.

Formula enteral merupakan makanan berbentuk cair yang mengandung zat gizi dan diberikan melalui *tube feeding*. Formula enteral standar rumah sakit berbahan dasar susu tidak dapat diberikan pada penderita intoleransi laktosa. Pada penelitian sebelumnya telah dilakukan pembuatan formula enteral berbahan baku tepung biji kecipir dan tepung jagung yang kaya protein sebagai alternatif pengganti formula enteral standar. Penelitian ini bertujuan untuk mengkaji mutu produk (kadar air dan jumlah bakteri) formula enteral tepung kecipir - jagung selama penyimpanan yang dikemas dengan plastik LDPE dan PP. Kemasan plastik LDPE dan PP merupakan jenis plastik yang sering digunakan untuk mengemas produk tepung-tepungan. Studi eksperimental ini menggunakan taraf perlakuan komposisi yang terdiri dari 75% tepung biji kecipir dan 25% tepung jagung selama 40 hari penyimpanan pada suhu kamar. Pemeriksaan kadar air menggunakan metode *thermogravimetri*, sedangkan pemeriksaan jumlah bakteri menggunakan metode angka lempeng total. Hasil penelitian menunjukkan bahwa tidak terdapat perbedaan yang signifikan pada kadar air dan jumlah bakteri antara kemasan LDPE dan PP pada hari ke 40 (masing-masing $p=0,71$ dan $p=0,76$). Kadar air pada hari ke-0 adalah 5,86% b/b, sedangkan hari ke-40 adalah 7,5% b/b untuk kemasan LDPE dan 7,42% b/b untuk PP (syarat SNI 5% b/b). Jumlah bakteri pada hari ke-0 adalah $3,2 \times 10^3$ koloni/gram, sedangkan hari ke-40 adalah $3,2 \times 10^4$ koloni/gram untuk kemasan LDPE dan $3,6 \times 10^4$ koloni/gram untuk PP (syarat SNI 5×10^4 koloni/gram). Kesimpulan penelitian adalah kemasan plastik LDPE tidak berbeda dengan plastik PP. Meskipun kadar air formula enteral kecipir - jagung di atas SNI, namun jumlah bakteri formula enteral kecipir – jagung masih memenuhi SNI.

Kata kunci: formula enteral, kecipir, jagung, air, bakteri

ABSTRACT

Ramadhani, Safira Nuri. 2014. **Water Content and Bacteria Amount of Enteral Formula Combination of Seed Flour Winged Bean (*Psophocarpus tetragonolobus* L.) with Corn Flour (*Zea mays*) (Study of Plastic Packaging LDPE and PP Type)**. Final Assignment, Nutrition Program, Faculty of Medicine, University of Brawijaya. Supervisors: (1) Dian Handayani, SKM, M.Kes, PhD. (2) Amalia Ruhana, SP., MPH.

Enteral formula is a liquid food containing nutrients and is given through tube feeding. Standard enteral formulas in hospitals containing dairy ingredients that can not be given to people with lactose intolerance. Therefore, it was observed the enteral formulas winged bean seed flour and corn flour that are high in protein and are expected to be consumed by lactose intolerance people. In the previous research has been found that the manufacture of enteral formulas winged bean seed flour and corn flour was rich in protein as an alternative to standard enteral formulas. This study was aimed to assess the quality (water content and the bacteria amount) of the enteral formula winged bean flour – corn flour during storage packaged by LDPE and PP plastic. LDPE and PP is a type of plastic that is often used to package starchy products. This experimental study used the standard composition comprising from 75% winged bean seed flour and 25% corn flour with 40 days storage at room temperature. The examination of water content using thermogravimetri method, while the bacteria amount using total plate count method. The results showed that there was no significant difference in water content and the bacteria amount between LDPE and PP packaging ($p = 0.71$ and $p = 0.76$, respectively). The water content at day-0 was 5.86% w/w, while at day-40 was 7.5% w/w for packaging LDPE and 7.42% w/w for PP (SNI requirement of 5% w/w). The amount of bacteria at day-0 was $3,2 \times 10^3$ colonies/gram, while at day-40 was $3,2 \times 10^4$ colonies/gram for packaging LDPE and $3,6 \times 10^4$ colonies/gram for PP (SNI requirements 5×10^4 colonies/gram). The conclusion is that there is no difference using LDPE plastic with PP plastic packaging. Although the water content of enteral formulas modification winged bean - corn flour above SNI, but the amount of bacteria on the enteral formula winged bean - corn flour still meet to the standards result.

Keywords: enteral formula, winged bean, corn, water, bacteria