

## INTISARI

**Latar Belakang:** Malnutrisi merupakan kondisi kesalahan asupan gizi, di antaranya kondisi gizi kurang (*under nutrition*). Akibat malnutrisi mengancam kehidupan manusia terutama terhadap anak-anak. Salah satu bahan makanan yang dapat digunakan untuk perbaikan malnutrisi adalah madu dengan kandungan nutrisi yang sangat lengkap. Selain madu pemberian tablet zink dipercaya dapat meningkatkan kadar hemoglobin dan albumin. Zink sebagai antioksidan dan katalisator reaksi-reaksi biokimia di dalam tubuh dalam perbaikan organ khususnya mengembalikan peran enzim dalam metabolisme makanan dalam tubuh.

**Tujuan :** Untuk mengkaji asupan zink dan madu terhadap kadar hemoglobin dan albumin pada tikus yang diberi diet rendah protein (keadaan malnutrisi).

**Metode:** Penelitian ini merupakan jenis penelitian eksperimental dengan rancangan *Pretest-posttest with control group design*. Tiga puluh ekor tikus Wistar dibagi secara random menjadi 6 kelompok, tiap kelompok terdiri 5 ekor. Kelompok normal tidak mendapat perlakuan. Lima kelompok diberi diet rendah protein selama 21 hari, empat dari lima kelompok tersebut mendapat perlakuan masing-masing diberi : larutan zink 0,99 mg/kg BB, madu 12,5 ml/kg BB, dan kombinasi 50% dari dosis tunggal masing-masing antara madu dan zink 1x sehari dan 2x sehari selama 21 hari.

**Hasil:** Terdapat perbedaan bermakna rata-rata kadar hemoglobin dan albumin pada antar kelompok tikus, baik pada perlakuan tunggal maupun kombinasi dibanding tikus normal dan kontrol malnutrisi. Kelompok pemberian zink dan madu 1x sehari mengalami peningkatan hemoglobin tertinggi sebesar 0,5 g/dl (3,10 %). Kelompok pemberian zink dan madu 2x sehari mengalami peningkatan Albumin tertinggi sebesar 1,99 g/dl (163,11 %).

**Kesimpulan:** Asupan zink dengan kadar 0,99 mg/kg BB dan madu dengan kadar 12,5 ml/kg BB selama 21 hari, meningkatkan kadar hemoglobin dan kadar albumin pada tikus dengan diet rendah protein. Pemberian kombinasi zink dan madu sehari 1 x memberikan peningkatan kadar hemoglobin dan pemberian kombinasi sehari 2 x meningkatkan kadar albumin.

**Kata Kunci:** *Malnutrisi, Hemoglobin, Albumin, Zink, Madu, Tikus, Diet Rendah Protein*

## ABSTRACT

**Background:** Malnutrition is a nutritional problem, one in particular is under nutrition. As a result of malnutrition can threaten human life, especially children. One of the ingredients that can be used to improve malnutrition is honey with a very complete nutritional content. In addition to honey, the usage of zinc tablets is believed to increase hemoglobin and albumin levels. Zinc as an antioxidant and catalyst for biochemical reactions helps repair organs, especially to restore the role of enzymes in the process of food metabolism in the body.

**Objective:** To study the intake of zinc and honey towards hemoglobin and albumin levels in rats that given a low protein diet (in condition of malnutrition).

**Method:** This research was conducted as an experimental research of pretest-posttest type with control group design. Thirty Wistar rats were divided randomly into 6 groups, each group consisted of 5 rats. Normal groups was get treatment. Five groups were given a low diet for 21 days, while four other groups received treatment given 0.99 mg zinc/kg of body weight, 12.5 ml honey/kg of body weight, and a combination of 50% from asingle dose each between honey and zinc per day 1 x and per day 2x for 21 days.

**Result:** There is a significant difference in the average hemoglobin and albumin levels in the group of rats, both in single treatment and combination of normal rats and malnutrition control. Groups that were given zinc and honey once time per day has the highest increased hemoglobin of 0.5 g/dl (3.10%). Groups that were given zinc and honey twice time per day has the highest increased albumin of 1.99 g/dl (163.11%).

**Conclusion:** The intake of zinc with a level of 0.99 mg/kg and honey with the levels of 12,5 ml/kg for 21 days, increased hemoglobin and albumin levels in mice with a low protein diet. Giving the combination of zinc and honey once a day gives an increase in hemoglobin levels and giving a combination of 2 times a day increased albumin levels.

**Keywords:** *Malnutrition, Hemoglobin, Albumin, Zinc, Honey, Rat, Low Protein Diet*