

# The effect of ophiocephalus striatus extract on the levels of igf-1 and albumin in elderly patients with hypoalbuminemia/Roza Mulyana, Siti Setiati, Rose D. Martini, Kuntjoro Harimurti, Noto Dwimartutie

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## Abstrak

### <b>ABSTRAK</b><br>

Background: a freshwater fish *Ophiocephalus striatus* or known locally to Indonesian as haruan, can potentially increase IGF-1 and albumin levels in elderly patients with hypoalbuminemia due to the contents of amino acids, fatty acids, vitamins, and minerals. This study was conducted to investigate the effect of *Ophiocephalus striatus* extract on the level of IGF-1 and albumin in elderly patients with hypoalbuminemia due to the contents of amino acids, fatty acids, vitamins, and minerals. This study was conducted to investigate the effect of *Ophiocephalus striatus* extract on the level of IGF-1 and albumin in elderly patients with hypoalbuminemia.

Methods: the study is a double-blind randomized controlled trial involving malnourished elderly inpatients (<math>\geq 60</math> years old) recovering from acute condition before hospital discharge, with Mini Nutritional Assessment score <math>\leq 23.5</math> and albumin level <math>< 3.5</math> g/dL. A total of 109 subjects were randomly divided into two groups: one group received 10 g *Ophiocephalus striatus* extract per day for 14 days and another group received placebo. Albumin and IGF-1 levels were obtained before and after intervention.

Results: ninety subjects completed the study (extract group=45 subjects; placebo group =45 subjects) for 14 days. The median of age were 69 (64;75) years and the male to female ratio were 2 : 3. The changes of IGF-1 and albumin levels from before to after intervention between extract group compared to placebo group were 14.7 (0.30;31.5) ng/mL vs 1.0 (-6;13.15) ng/mL ( $p=0.002$ ) and 0.5 (0.15;0.70) g/dL vs 0.10 (0.0;0.50) g/dL ( $p=0.003$ ), respectively. There were significant differences in the improvement of IGF-1 and albumin levels between extract and placebo group.

Conclusion: supplementation of *Ophiocephalus striatus* extract was associated with a significant increase in IGF-1 and albumin levels in elderly patients with hypoalbuminemia.