

## **NANOPARTICLES OF MORINGA OLEIFERA LEAF EXTRACT ON ENDOTHELIN-1, sFlt-1 AND BLOOD PRESSURE IN PREGNANT WOMEN WITH HYPERTENSION**

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Management of hypertension in pregnancy can be done pharmacologically and nonpharmacological. The objective of this research was to identify nonpharmacological therapies using herbal therapies which can be used to reduce hypertension.

True experiment, Randomized Control Trial with pretest-posttest control group design, in two groups, namely the nanoparticle group of Moringa Oleifera extract 500 mg/day during one month and the control group. We investigated 40 people respondents who were pregnant women with hypertension. Endothelin 1, sFlt-1 was measured in serum samples. this study showed that in treatment groups before and after the intervention there was a significant difference ( $p < 0.001$ ). Nanoparticles of Moringa Oleifera extract can decrease systolic ( $138.70 \pm 124.90$ )  $p = 0.007$  RR 8 CI (1.27=50.03), and diastole ( $88.50 \pm 78.40$ )  $p = 0.045$  RR 2 CI(1.195-3.99), it reduced sFlt-1 levels  $p = 0.006$ , RR 3.5 CI (1.8511.29), endothelin-1 levels ( $1.00 \pm 0.98$ )  $p = 0.000$ , RR 2.5 CI (0.045-1.36). Therefore, moringa leaf nanoparticles can reduce blood pressure in pregnant women. Moringa leaves, based on previous research results, stated that the herbal moringa oleifera leaves contain flavonoid, calcium and antioxidant components which are good for consumption by pregnant women and reduce the risk of pre-eclampsia.

Nanoparticles of Moringa Oleifera extract 500 mg/day, have a significant effect on reducing levels of blood pressure, sFlt-1 and endothelin-1 levels in pregnant women with hypertension. Therefore, based on the result of this research, it is essential to empower and utilize the moringa plant for public health, particularly pregnant women with hypertension.

**Keywords:** nanoparticles, moringa oleifera, pregnant, hypertension.