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**DAFTAR SINGKATAN**

ACTH : *adenocorticotrophin hormone*

AGRP : *agouti related peptide*

CRF : *corticotrophin releasing factor*

GH : *growth hormone*

HPA : hipotalamus hipofisis adrenal

NPY : *neuropeptide Y*

SCN : *suprachiasmatic nucleus*

SD : *sleep deprivation*

SMM : Sindrom Makan Malam

WAT : white adipose tissue

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**ABSTRACT**

*Ghrelin and Serotonin Levels Due to Circadian Effects in Wistar Rats  
as an Indicator Of Obesity*

**Background:** Obesity is a pathological condition in which there is excess fat accumulated in the subcutaneous tissue. The percentage of obesity is about 13% of the adult population in the world, which is 11% in men and 15% in women. One of the main factors supporting obesity is a disruption in the performance of circadian rhythms which also results in a decrease in the quality and quantity of sleep and triggers a decrease in the hormone serotonin. A decrease in the hormone serotonin can cause an increase in the hormone ghrelin as an appetite-stimulating hormone. **Objective:** To prove that ghrelin and serotonin can be used as indicators of obesity in Wistar rats as experimental animals. **Research Methods:** The study involved 3 groups with each group containing 6 samples. Group 1 is the normal group, group 2 is the dark group and group 3 is the light group. Each group was given circadian treatment and modified feed until obesity was found and then terminated for blood to be drawn through the heart. The collected blood is then centrifuged and measured using the Rat ELISA Kit from the Bioassay Technology Laboratory and then the concentration of each sample is seen. **Results:** The result of weight ELISA Rat reading between normal-dark group p-value = 0.004 ( $p < 0.05$ ), in the normal-light group p-value = 0.181 ( $p > 0.05$ ) and in the dark-light group p-value -value = 0.003 ( $p < 0.05$ ). Then it is known that there is a strong correlation between body weight and ghrelin with p-value = 0.006 ( $p < 0.05$ ),  $r = 0.609$ . The correlation between body weight and serotonin is moderate with p-value = 0.023 ( $p < 0.05$ ),  $r = 0.517$ . **Conclusion:** Ghrelin and Serotonin can be used as indicators of obesity in Wistar rats.

**Keywords:** *Obesity, Circadian Rhythm, Ghrelin, Serotonin*