

## ABSTRACT

**Introduction.** Diabetes melitus is a group of metabolic diseases characterized by hyperglycemia. Diabetes chronic hyperglycemia results in long-term damage, dysfunction, and organ failure, especially in the kidneys, nerves, heart, eyes, blood vessels to the brain which can disrupt cognitive function to dementia. The purpose of this study was to determine the effect of turmeric extract on the number of glia cells in the brain of diabetic mice. **Materials & Methods.** The research design used true experimental using the post-test control group design approach. The population of mice that met the criteria. The sample size was 25 samples. The sampling technique was purposive sampling. The intervention group was given 3 types of doses, namely a low dose of 3 mg / 20g BW / day, a moderate dose of 6 mg / 20g BW / day, and a high dose of 10 mg / 20g BW / day. The analysis used the Anova test with a significant  $\alpha = 0.05$ . **Result.** The results of the study using the Anova test using the ANOVA test showed that there was a significant effect between the significant effect of turmeric leaf extract on the decrease in mad cells in the brain of diabetes melitus model mice with p-value .000. In the follow-up test, the results of the group that had a significant effect were the treatment group with low, medium, and high doses. The highest mean value of decline with a value of 11.60 was obtained at high doses. **Discussion.** Turmeric extract influences the number of glia cells in the brain of diabetes melitus model mice, this can be used as a reference for turmeric leaf extract as a complementary treatment in patients with chronic hyperglycemia to avoid decreased cognitive function and dementia.

Keywords: turmeric extract, diabetes melitus, glial cells, brain cells