

## CHAPTER V CONCLUSION AND SUGGESTION

### A. Conclusion

1. A significant difference in random blood glucose reduction was observed between the STZ-induced untreated group (negative control) and the treated groups. The negative control group showed an increase in random blood glucose levels, with a mean pre–post change of  $-10.50 \pm 11.85$  mg/dL, indicating persistent hyperglycemia without treatment.
2. Administration of rambutan seed infusion (0-day fermentation) at a dose of 32 mg/kgBW for 14-day intervention period in group C reduced random blood glucose levels, with a mean pre–post decrease of  $7.50 \pm 2.38$  mg/dL.
3. Administration of rambutan seed infusion (3-day fermentation) at a dose of 32 mg/kgBW for 14-day intervention period in group D reduced random blood glucose levels, with a mean pre–post decrease of  $13.25 \pm 6.02$  mg/dL.
4. Administration of rambutan seed infusion (5-day fermentation) at a dose of 32 mg/kgBW for 14-day intervention period in group E reduced random blood glucose levels, with a mean pre–post decrease of  $33.00 \pm 4.32$  mg/dL.
5. Administration of rambutan seed infusion (7-day fermentation) at a dose of 32 mg/kgBW for 14-day intervention period in group E reduced random blood glucose levels, with a mean pre–post decrease of  $46.25 \pm 4.11$  mg/dL.
6. Overall, the results demonstrate that fermentation duration significantly influenced the glucose-lowering effect of rambutan seed infusion. Increasing fermentation duration was associated with greater reductions in random blood glucose levels, with 7 days of fermentation identified as the most effective duration among the tested fermentation periods.

## B. Suggestion

1. Additional research is recommended to further evaluate the effects of fermented rambutan seed infusion on random blood glucose, including its influence on other glucose related parameters and histopathological changes in target organs such as the liver and pancreas.
2. Future studies should focus on optimizing the dosage and fermentation duration of fermented rambutan seed infusion to determine the most appropriate conditions for reducing random blood glucose levels, while minimizing confounding factors related to stress and physical activity.
3. Further investigation is needed to identify the bioactive compounds in fermented rambutan seeds that may contribute to blood glucose regulation, along with toxicity and safety assessments to support its potential use as a complementary

