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Peer Review

Review of: "Antibacterial Activity of Malaysian Trigona itama and Trigona thoracica Honey Against Gram-Negative and Gram-Positive Bacteria"

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The authors of the study undertook an analysis of the antibacterial properties of

Malaysian stingless bee honey from the species *Trigona itama* and *Trigona thorasica* against selected Gram-negative and Gram-positive bacterial samples.

This research is important to confirm the properties of honeys known from folk medicine and to develop their professional use in therapy.

The antibacterial properties of the tested honeys were measured using three indicators: the zones of inhibition of growth of bacterial colonies, the Minimum Inhibitory Concentration (MIC), and the Minimum Bactericidal Concentration (MBC) values of the four honey samples. Based on the values of the above parameters, the authors demonstrated the antibacterial properties of certain concentrations of honey samples on selected microorganisms.

My doubts arise from the statistical analysis. The authors present the results obtained as means and standard deviations, which is generally accepted practice. The paper lacks test results that confirm the statistical significance of the results obtained and the differences between them. In this type of research, it is necessary to analyse the distribution of the data and select appropriate statistical tests that demonstrate the significance of the results obtained and confirm their reliability and applicability in practice.

I believe that the paper should be supplemented by the results of statistical tests, presented in tables or in the form of graphs, with the differences between the means of the variables analysed marked.

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The type of test depends on the distribution of the data and the number of variables, groups analysed (4 honey samples = 4 groups). First, we need to test the distribution of the data. For data with a normal distribution, we use parametric tests, e.g., ANOVA, and for data with a non-normal distribution, we use non-parametric tests, e.g., the Kruskal-Wallis test.

Declarations

Potential competing interests: No potential competing interests to declare.