

A COMPARATIVE STUDY OF ANTI-DIABETIC ACTIVITY OF *CINNAMOMUM ZEYLANICUM, ARTEMISIA ABSINTHIUM* AND THEIR COMBINATION

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Background

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia. It is mainly classified into two major groups, type-1 and type-2. Type-2 is a combination of resistance to insulin action and an inadequate compensatory insulin secretory response.The treatment of type-2 diabetes mellitus (DM) with synthetic drugs have many side effects so many researches were conducted to overcome or reduce this side effects by using alternative medicine. The aim of this study is to investigate the anti-diabetic activity of *Cnnamomum zeylanicum* and *Artemisia absinthium* and their combination.

Methodology

C. zeylanicum and *A. absinthium* were extracted by 96% ethanol using Soxhlet apparatus. Thirty-two rats were divided into 8 groups; each group contains 4 rats. 1st group was administered with distilled water at dose of 10ml/kg, 2nd group had received glucose only at dose of 2g/kg intraperitoneal, the standard group (3rd group) had received Glibenclamide orally at dose of 0.45mg/kg, 4th group received 100 mg *C. zeylanicum* + 300 mg *A. absinthium* with a ratio of (25:75), 5th group received 300 mg *C. zeylanicum* + 100 mg *A. absinthium* with a ratio of (75:25), 6th group received 200 mg *C. zeylanicum* + 200 mg *A. absinthium*with a ratio of (50:50), 7th group received 400 mg of *A. absinthium*, 8th group received 400 mg of *C. zeylanicum*. Then the blood samples were taken Retro-orbitally at 0, 1, 2 and 4 hours and the glucose level was measured.

Findings

Each plant alone and their combination with different ratios shows antidiabetic effect. The significant activity was shown by *A. absinthium* extract (400 mg/kg), combination of ratio of (75:25) *A. absinthium*: *C. zeylanicum*(400mg/kg) and then *C. zeylanicum*(400mg/kg) with p-value 0.001, 0.022, 0.030 respectively, the activity was found to be increased with time. The other combinations showed less activity with p-value > 0.05.

Conclusion

The study concluded the good antidiabetic activity by *A. absinthium* alone and its activity decrease by increase combination ratio with *C. zeylanicum.* Which maybe explain by the antagonistic effect between the compounds of *C. zeylanicum* and *A. absinthium*. Recommendations are further study on the antagonistic effect of the combination.

Biography

Ustina Saeed Barsombolice is a pharmacist, graduated from the University of Medical Sciences and Technology in 2017, having a graduation project in the department of Pharmacognosy.

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