

Investigation of antimicrobial and anti Alzheimer effects of Caraway extract by inhibiting the production of amyloid nanobiofibrils

Mahtab Bahrekazemi*,

Abstract History and the purpose: Carum carvi is a perennial plant belongs to Apiacea which its active ingredients include Carvone, Dihydro carvone, and Limonene essences. This research aims to study antimicrobial properties of aqueous and alcoholic extracts of carum carvi; and also to study anti-Alzheimer extract's effects by restraining fibril formation in bovine serum's albumin protein. **METHODS:** Carum carvi, aqueous and hydro-alcoholic extract antimicrobial effects on Escherichia coli and Staphylococcus aureus was performed by using antibiogram and creating sinks methods. The average of growth inhibition diameter in Carum carvi extract was measured and recorded after measuring each test for 3 times. **RESULTS:** Growth inhibition zone diameter of Carum carvi aqueous extract by using sinks method was 29 mm for Staphylococcus aureus, and 8 mm for Escherichia coli. Sinks method has better performance rather than other methods, because it's more penetrance. MIC and MBC results for both bacteria were 75 and 150 mg/ml respectively. Carum carvi anti-bacterial activity on warm positive bacteria was more than its activity on warm negative bacteria also hydro-alcoholic extract has more inhibitory effects in general. Increasing Carum carvi density (to 100 percent) inhibits the presence of amyloid fibers. This reduction in the amount of amyloid fibers proves Carum carvi anti-Alzheimer properties. Also Ai-chloro ethyl linoleate existence was confirmed to 91 percent by using mass spectrometry method (CG-Mass). **CONCLUSION:** Carum carvi has anti-microbial properties and has less side effects and cost rather than other synthetic drugs. It also can be used as a useful drug to reduce the Alzheimer in humans.

Keywords : Key words: Carum carvi extract, anti-microbial properties, anti-Alzheimer

properties, Amyloid.

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