

Investigation of antimicrobial and anti Alzheimer effects of *Allium sativum* extract by inhibiting the production of amyloid nanobiofibrils

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Introduction: Garlic has long been used for medical applications and has recently been used for cardiovascular and antimicrobial properties. Sulfur compounds include: Allicin, active compounds in garlic plant. In addition to the antimicrobial effects of garlic, this study examined the possible inhibitory effects of garlic extract on the production of amyloid strains (as a causative agent of Alzheimer's disease). **Methods:** The considered plant was prepared wet and more completely in February (2017). After cleaning, it was peeled off and clove garlic was separated stem and turned into tiny pieces by using a grater. The antimicrobial effects of garlic extract on *Staphylococcus aureus* and *Escherichia coli* were measured by using an antibiogram method and formation of chahak and blank. 3 times after measuring each test, the inhibitory growth zone diameter of garlic extract was measured and recorded, and the values of MIC and MBC of hydroalcoholic extract was determined. Anti-alzheimer's effects were also performed by absorption method and electron microscopy imaging. **Results:** The inhibitory growth zone diameterlic hydroalcoholic extract of garlic in chahak method was 33 mm *Staphylococcus aureus* bacteria and inhibitory growth zone of *Escherichia coli* bacteria was 26 mm. Alzheimer's effects was also in low concentrations. MIC and MBC values were obtained for *Staphylococcus aureus* and *Escherichia coli*, respectively, 11.5 and 23 mg / ml, respectively. Sayed extract at a concentration of 20% in solution could completely inhibit the production of amyloid strands. **Conclusion:** According to the examination, the compounds in the garlic extract reduce or inhibit the production of amyloid fibers, which has been determined the anti-Alzheimer's effects as a widely used medicinal plant.

Keywords : Key words: Garlic extract, Antimicrobial effects, Alzheimer's effects, Amyloid

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