**Title** Antioxidant and Antibacterial activity of some medicinla extracts against some food borne pathogen

**Author:** Mohammad Rahnama, Barat Ali Fakheri, Mohammad Amin Mashhady and Saeide Saeidi, Faculty of Veterinary, University of Zabol, Iran

**Email:** dr\_m\_rahnama@yahoo.com

**Date:** December 2018

**Introduction**

Nowadays food production technology and hygiene are highly progressed, however at the same time; the subject of food safety is one of the important headlines of public hygiene. In the company of expansion of general knowledge of consumers demanding for elimination of synthetic food additives and trends toward “green” consumerism, the requisite of conducting researches on antimicrobial effects of natural agents is highly increased. These researches are conducted first at in vitro models and then in food systems. Medicinal plants have long been used to treat diseases and infections caused by food. The aim of this study was to investigate the antimicrobial effects of *Withania somnifera,**Black nightshade , Menth piperita, Mentha pulegium,Glycyrrhiza glabra,Rosmarinus officinalis and Saponaria officinalis on* pathogenic pathogens of *Staphylococcus aureus, Shigella disentry, Listeria monocytogenes, Vibrio cholera, Bacillus cereus*

**Methods**

The method of the experiment was to prepare the extract of the plants using a rotary device Anitioxidant property was studied by determining their (DPPH) free radical scavenging activity and the antimicrobial effect of them on standardized microbial strains. The aim of this study was the improvement of minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) against *Staphylococcus aureus, Shigella disentry, Listeria monocytogenes, Vibrio cholera, Bacillus cereus*

**Results**

The results indicated that There were significant differences among the free radical scavenging activity and there was a direct correlation between the increase in plant extract concentration and their antimicrobial effects, so that the increase in the concentration of the extract increased their antimicrobial effect on the strains studied.The results of this study showed that the lowest inhibitory concentration of *Withania somnifera* extract was compared to *Bacillus cereus* bacterium (6/25mg/ml) while the inhibitory concentration of *Staphylococcus aureus, Listeria, Vibrio cholera and Shigella* bacteria Equal to 12.5 mg / ml and the highest lethal concentration was 25 mg/ml. The lowest inhibitory concentration of *Mentha pulegium* extract and *Mentha piprtita* was observed in *Staphylococcus aureus, Listeria and Vibrio cholera* bacteria with a concentration of 6/25mg / ml. It seems complementary studies and popularization of the results to food models is recommended.