

CP-012

**IN-VITRO STUDY ON EFFECT OF GARLIC AND GINGER CONSUMPTION TOWARDS
*LACTOBACILLUS ACIDOPHILUS***

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ABSTRACT

Garlic and ginger were consumed widely for variety of pharmacological activities. While *Lactobacillus acidophilus* is also known as probiotics found to have potent antimicrobial activity and protect the gastrointestinal surface by reducing the adherence of pathogen. This study is to determine the safety of garlic and ginger consumption in maintaining the balance of gastrointestinal microflora. Vacuum filtered crude garlic and ginger extracts were investigated for the ability to inhibit *L. acidophilus* under various use conditions, such as variation in concentration, temperature, and storage period. The extracts were considered 100% and it were diluted to prepare 75%, 50%, and 25% respectively. Temperatures were manipulated by fixing the water bath at 37°C, 50°C, 75°C, and 100°C. Storage periods were analyzed every 2 hours interval for 8 hours by expose the extract in room temperature. Further test on influence of acidity on garlic towards *L. acidophilus* and *E. coli* were determined. Acidity of hydrochloric acid were fixed as pH 2, 3, 4.5 and 7 at constant volume, 5ml were treated with 5ml of crude garlic extract. While 4ml 3ml, 2ml, and 1ml of hydrochloric acid at constant pH 2 were treated to 5ml of crude garlic extract. Maximum zone of inhibitions of *L. acidophilus* by garlic were observed at 100% concentration, 50°C of temperature and 2 hours of storage period. While no zone of inhibitions were observed on crude ginger extract at same condition. *L. acidophilus* shown increase in inhibition zone when acidity and volume hydrochloric acid treated with crude garlic extract decreases. Inhibition of *E. coli* observed only in neutral pH and no inhibitions were observed at garlic treated with different volume of hydrochloric acid. In summary, these results suggest that consumption of garlic may cause gastrointestinal problems by reduce the number of *L. acidophilus*.

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