



## Comparison between chemical and natural disinfectant against *Escherichia coli* and *Streptococcus pyogenes*

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**Abstract :** *Disinfectants are used in our day today life for many purposes like cleaning floor, washing clothes, cleaning toilets, sinks, etc. So, its property is needed to be checked. In this work two categories of disinfectants were used; that are chemical (Harpic and Dettol) and natural disinfectants (Neem and Garlic) and their efficiency was checked against the two selected bacteria- Escherichia coli and Streptococcus pyogenes. Sensitivity test for bacteria against different disinfectants was checked one by one using 'Kirby-Bauer Disc Diffusion Sensitivity Testing. The bacterial suspension was spread on nutrient agar media and filter paper disc loaded with particular disinfectant was placed on it and incubated at 37° C for 24 hrs.*

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*Afterwards observation was taken for “zone of clearance i.e. inhibitory zone” and “Minimum Inhibitory Concentration (M.I.C)”. The above protocol was followed thrice in triplicate for each disinfectant against each bacterium, so that exact and accurate results can be interpreted. It was found that chemical disinfectant were more efficient than natural disinfectant. Natural disinfectant besides being less efficient was proved to be effective against bacteria to a great extent. So, it can be said that besides being less efficient natural disinfectant can't be neglected and can be used in our day to day life. It also overcomes the disadvantages of chemical disinfectants like they are not allergic to humans, they are not hazardous, cost effective and easily available.*

**Key words :** *Disinfectant, Escherichia coli, Streptococcus pyogenes, Zone of Inhibition, Minimum Inhibitory Concentration (M.I.C.).*

### Introduction :

In this work, the main objective was to compare the disinfection ability of chemical and natural disinfectants on the viability of *Escherichia coli* and *Streptococcus pyogenes*, as well as to figure out the disinfectant efficiency on the two specified bacterium. Main focus was to check the