Analyzing the Resistance and Susceptibility of Corchorus olitorius Against Escherichia coli

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Sterile paper disks will be impregnated with different concentrations of Corchorus olitorius solutions and will undergo a Kirby-Bauer test involving E. coli to determine if C. olitorius is able to resist bacterial growth. Corchorus olitorius is a popular plant in Asian and Middle Eastern cultures. It is easy to find and grow, making it very accessible and affordable. Determining its antimicrobial potential can lead to creation of inexpensive medications and treatments for bacterial infections and other diseases. In the Kirby-Bauer method, the disks treated with the different solutions (0, 0.1, 1, 10, and 100%) are placed on an afar plate that has been inoculated with liquid Escherichia coli. The agar plates are then incubated for 24-48 hours to allow the bacteria to grow on the agar. Zones of inhibition around the disks determine the bacterial resistance of C. olitorius. Greater zones equate to stronger resistance. The data collected shows that with higher C. olitorius concentration, a larger zone of inhibition is created. The presence of C. olitorius created zones of inhibition on all disks. An ANOVA test shows that the p-value is 0.0018, making the data significant. The null hypothesis is therefore rejected and the alternate hypothesis is accepted. Future experimentation regarding this project could possible include determining the specific properties and components that make up Corchorus olitorius and allow it to resist bacterial growth.

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