Water Pennywort Its Effect against Gastrointestinal Infections

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Abstract

This study was conducted to determine the effect of water Pennywort leaf extract and the controls against gastrointestinal bacteria and was conducted to find out the best concentration to inhibit Stapylococcus aureus and Escherichia coli against the control groups.

This study was conducted at the laboratory of the Cordillera Regional Science High School, Wangal, La Trinidad, Benguet on October 15-19, 2012.

In like manner, the researchers used the Completely Randomized Design (CRD) and Duncan's Multiple Range Test (DMRT). Six (6) treatments of Water Pennywort leaf extract having ten (10) mL for each concentration were used. Treatment 1 was composed of pure 100% Water Pennywort leaf extract. Treatment 2 was combination or 75% Water Pennywort leaf extract. Treatment 2 was a combination of 75% Water Pennywort leaf extract and 25% sterile water. Treatment6 3, the 50% of pure Water Pennywort leaf extract was mixed with 50% sterile water. Treatment 4 comprised of 25% Water Pennywort leaf extract and 75% sterile water. The control groups were Treatment 5, the positive control which is the amoxicillin and Treatment 6, the negative control which is the sterile water. There were three (3) replications per treatment with three (3) replicates for each trial. Disk diffusion method was used to determine the zone of inhibition of the different treatments.

Findings showed that the different treatments have a significant effect on the growth of gram negative and gram positive gastrointestinal bacteria. Within the different concentrations, it was found out that 100% Water pennywort leaf extract was the best treatment for S. aureus while

25% Water Pennywort leaf extract is the best treatment for E. coli. Moreover, it was also determined that the best treatments of Water Pennywort leaves extract has a greater effect than that negative control which is the sterile water but is less effective than the positive control which is amoxicillin.

From the data gathered, analyzed and interpreted, the researchers recommend that future studies will use the stem and roots of Water Pennywort; that other methods of extraction be explored to determine the best way of extracting active antibacterial components of Water Pennywort; that the amount of Water Pennywort be increased; and that, similar studies be conducted to validate the above findings.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. The different treatments of Water Pennywort leaves can inhibit the growth of gram negative and gram positive gastro intestinal bacteria.
2. The best treatment (100% Water Pennywort leaf extract) against the gram positive bacteria is more effective as compared to the negative control (sterile water) but less effective as compared to the positive control (amoxicillin).
3. The best treatment (25% Water Pennywort leaf extract) against the gram negative bacteria is more effective as compared to the negative control (sterile water) but is less effective as compared to the positive control (amoxicillin).

Recommendations

From the conclusions drawn, the following statements are recommended:

1. For future researchers, the use of the stem and roots of Water Pennywort to inhibit the growth of gram negative and positive gastrointestinal bacteria is suggested.
2. Other methods of extraction steam distillation and water extraction be explored to

determine the best way of extracting active antibacterial components of Water Pennywort.

3. The future researcher are advised to increase the amount of Water Pennywort leaf increasing its concentration.
4. Similar studies be conducted to validate the above findings.

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