Use of Borreira laevis Herb (White Broomweed) To Dissolve Common Kidney Stones of Calcium Oxalate Crystals

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This research aims to study the effect of different concentrations of Borreria laevis (White Broomweed) tea on the solubility of calcium oxalate crystals. This herb is highly used on the island of Puerto Rico; it grows on residual soils and is easily grown in moist areas and partial shade. It is known for having anti-inflammatory and regenerative abilities. It is used to treat colds, as an expectorant, antiseptic, and immune stimulant. Many people have stated that White Broomweed tea is also good for kidney stones, however, no official research has been done to test this statement, which is what motivates this study. For the research, a mixture of calcium chloride and sodium oxalate solutions were prepared, and the pH value was adjusted to 5. Different concentrations of Borreria laevis tea (0%, 20%, 40%, 60%, 80%, and 100%) were added to individual beakers containing 0.003mg of calcium oxalate, and the solubility of the crystals was measured and compared. It was found that at 60% and 80% concentrations, the size of the calcium oxalate crystals decreases, and at the 100% concentration, the calcium oxalate crystals dissolve completely. It was concluded that Borreira laevis tea can dissolve kidney stones, providing a non-invasive, accessible, and cost-effective treatment for patients suffering from renal calculi. Furthermore, the findings could lead to the development of new treatments for kidney stones using a herb that is easily found. This research will be expanded to test the effectiveness of this plant on the solubility of gallstones.

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