

Poster

***Hibiscus sabdariffa* L.: support for ethnobotanical use in the treatment of dysmenorrhea.**

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Introduction. Dysmenorrhea is a common gynecological disorder affecting nearly 60% of all women in North America. For many women with severe dysmenorrhea, menstruation is synonymous with intense lower abdominal and back pain, accompanied by nausea and vomiting. For these women, normal life is disrupted for up to 3 days out of each month. On a national scale, dysmenorrhea is responsible for 6 billion work hours lost each year- a loss of approximately 200 million US dollars. *Hibiscus sabdariffa* L., also known as “sorrel” or “roselle” is commonly used in Latin American countries to treat a variety of ailments ranging from hypertension to menstrual disorders. Our studies have shown this plant to be active in both the COX-2 enzyme immunoassay (100% inhibition at 10ug/ml). At 50ug/ml, the crude extract was active in the estrogen receptor competitive binding assay (38% in ER- α ; and 56% active in ER- β ;). This activity would suggest that this plant contains both anti-inflammatory and estrogenic constituents. These biological activities scientifically support the use of this plant in the treatment of dysmenorrhea.

Objectives. To evaluate the biological activities of *Hibiscus sabdariffa* which support its uses as a medicinal plant used to treat dysmenorrhea.

Methods. One kilogram of plant material was collected and authenticated in Costa Rica. The plant material was extracted extensively with methanol and the dried crude extract was tested in the COX-2 enzyme immunoassay, as well as in estrogen and progesterone receptor radio-labeled competitive binding assays.

Results. At 10ug/ml, the crude extract was active in the COX-2 EIA, suppressing prostaglandin production completely (100% inhibition). Additionally, at 50ug/ml, the extract bound to the ER- α ; and ER- β ; receptors with 38% and 56% affinity, respectively. In the progesterone receptor competitive binding assay, the extract showed 43% affinity for the receptor.

Conclusion. The biological activities of *Hibiscus sabdariffa* support its ethnomedical use for the treatment of menstrual disorders, as well as pain and inflammation associated with dysmenorrhea.

Keywords: herbal medicine, Costa Rica, Traditional use

Selected References

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