

Evaluation of the ethnomedical use of *Justicia pectoralis* for the treatment of dysmenorrhea.
(Poster)

Tracie Locklear¹, Brian Doyle¹, Gail B. Mahady¹, Alice Perez²

¹ Departments of Medicinal Chemistry and Pharmacognosy, Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago. USA

² Natural Products Research Center, University of Costa Rica, 2060 San Pedro San Jose, Costa Rica

Introduction

For millions of women worldwide, who experience excessive pain during menstruation, the culprit is dysmenorrhea. While in industrialized nations, dysmenorrhea is treated by NSAIDs, in developing countries many women use specific plant-based medicines for treatment. In Central America, *Justicia pectoralis* is used to treat pain and inflammation associated with the menstrual cycle. Here we investigate the ethnomedical uses of *J. pectoralis* for the treatment of dysmenorrhea.

Objectives

To evaluate biological activities of *J. pectoralis* which support its use as a medicinal plant to treat dysmenorrhea.

Methods

One kg of plant material was collected and identified in Costa Rica. The plant material was extracted extensively with methanol and the dried extract was partitioned with petroleum ether, ethyl acetate, and de-ionized water. Fractions were tested for COX 2 inhibition in the pulse ultrafiltration (PUF) and the ELISA assays. Estrogen and progesterone receptor binding were tested by radio-labeled ligand binding assays.

Results

At 10 ug/mL, the crude extract proved active in the COX 2 assay, suppressing prostaglandin production by 79%. The crude extract also bound to the estrogen receptors alpha and beta with 59% and 71% inhibition, respectively. The crude extract was 72% active in the progesterone receptor-binding assay. Additionally, the ethyl acetate fraction of *J. pectoralis*, expressed 98% COX-2 inhibitory activity and was 70% active in the estrogen receptor binding assay.

Conclusion

The biological activities of *J. pectoralis* support its ethnomedical use for the treatment of pain and inflammation associated with dysmenorrhea.

Selected references

1. Dawood, Y.M.; McGuire, J.L.; Demers, L.M. *Premenstrual Syndrome and Dysmenorrhea*. Urban and Schwarzenberg, Baltimore, MD, 1985.
2. Leal, L.M.; Ferreira, A.G.; et al. *J. Ethnopharmacol.* 2000, 70, 151-159
3. Wong, W.; *Economic Botany*, 1976, 30, 103-142

Presenting author: Tracie Locklear,
