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Khaya senegalensis: Discover Khaya, the Period Pain Reliever

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Khaya senegalensis: Discover Khaya, the period pain reliever

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An Australian medical research company, working with several Australian universities over the past 5 years, has been granted TGA approval for an ancient medicinal plant known by its full botanical name as Khaya senegalensis (pronounced: Ky-ya sen-e-gal_en-sis). A Khaya formula known as Khapregesic is now also TGA-approved.

Botanical History
Khaya senegalensis (Desr.) A.Juss., a member of the Meliaceae family, is commonly known as dry zone Mahogany. (1-3) A medium sized, evergreen savanna tree that typically grows 15 to 30m in height and 1m in diameter, it is characterised by its dark, shiny pinnate leaves, round fruit capsules up to 10cm in diameter, dark grey, scaly bark, and deep red coloured timber (see Figure 1). (1,4) Now rare in the wild, largely due to land clearing practices in Africa, its status is ‘vulnerable’ on the International Union for Conservation of Nature and Natural resources (IUCN) Red List of Threatened Species. (4)

Many different traditional medicine systems have utilised khaya for various conditions over many years. (1-3,5) It is an invaluable source of potent medicines, with its use being traced back as far as 1000AD. (6) The bark, fruit, flowers, root, and seed have all been used therapeutically. Ethnopharmacological studies have recognised the use of bioactive extracts of khaya for its anti-inflammatory, antinociceptive/analgesic, antipyretic, antimicrobial, anthelmintic, depurative, antioxidant, and antiplasmodal activities. (1-3,5) Oral and topical use in the symptomatic relief of fever, inflammation and localised pain have been widely reported. (1,3,7,8) Microbiological studies investigating the antimicrobial efficacy have shown activity against a range of common human pathogenic bacteria (both gram positive and gram negative) (1,9-11) and in vitro studies have shown the constituent flavonoid and phenolic compounds to have significant antioxidant activity. (6,12)
Period Pain and associated gut problems
Khaya is predominantly used in traditional female medicine and is referenced in many traditional texts, some dating back over 100 years. (13-21) Generally, we know that prostaglandins are responsible for the relationship between menstruation and pain. It appears that increased levels of prostaglandins released during menses induce hyperactivity of the uterine muscle that leads to uterine ischaemia and pain. Many women experiencing dysmenorrhoea also experience associated gut issues due to the increased release of prostaglandins. (20)

Additionally, Khaya is also used in traditional medicine to calm various gut issues owing to its purported ability to increase abdominal blood flow. The evidence, traditional and scientific, points to a botanical that on one hand eliminates ‘bad’ bacteria, (1-3, 5, 11, 21) and on the other fosters an environment where ‘good’ bacteria can thrive. Theoretically, it achieves this ideal environment by providing protective anti-inflammatory and extremely high antioxidant activity. (22) Together with ‘good’ gut bacteria food in the form of prebiotic polysaccharides. These benefits are all provided within Khaya’s diverse polyphenol-rich chemical profile. (23) However, further clinical testing needs to be conducted. The current evidence suggests that the combined effect of pain relief and addressing other gut-related symptoms such as bloating, diarrhoea and constipation, can contribute to a more balanced microbiome.

Pain relief through stimulation of opioid receptors
Laboratory studies of the aqueous bark extract of Khaya have demonstrated significant anti-nociceptive activity and suggest that this effect is mediated, both centrally and peripherally, through stimulation of opioid receptors. (2,8)

Other laboratory studies investigating extracts of both the leaf and bark have demonstrated that oral and topical administration results in significant anti-inflammatory and analgesic effects. Anti-inflammatory activity was demonstrated to be significant in the inhibition of cyclooxygenase (COX) enzymes, in particular COX-2. (22) Khaya has also been shown to inhibit inflammatory pathways mediated by Free Radical ABTS, Caspase 3, AKT1, MAPK3 and EGF receptors. (22)

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Taking Khaya

Khaya appears to have a very low toxicity risk. (1) That being the case, a lack of modern controlled studies over a significant time period means that interactions and contraindications to modern drugs are theoretical rather than evidential. It is worthwhile noting that potency is high, and efficacy is reached at very low doses. TGA guidelines recommend one gram daily, with clinical studies showing that this dosage can ease PMS symptoms if taken 2–3 days before a period for 7 days or as professionally prescribed. Use in children under 12 years is not recommended. No consistent adverse events were evident from the human data.

Naturopath Caroline Roberson conducted a series of case studies and found that her patients reported that Khaya was a botanical that not only relieved period pain cramping but was able to calm mild anxiety and improve sleep. In fact, 92% of her patients who were being treated for period pain and other related symptoms experienced some degree of abdominal pain relief. Of those who reported associated anxiety before the commencement of the case studies, 70% reported anxiety relief. There was also a significant improvement in sleep patterns and improvement in other guai-related symptoms such as bloating and diarrhoea. (24)

Khaya: Fast Facts

95% COX-2 inhibition
Anti-inflammatory marker COX-2 inhibitory score (9,18)
Exceptionally high antioxidant levels
ABTS Radical score of 99% (18)
Pre-biotic polysaccharides
within its polyphenol-rich chemistry (22)

Caroline Robertson is a Clinical Naturopath and Ayurveda Practitioner with over 30 years’ experience. She is a natural therapies author and clinical case study supervisor, and practises in the Northern Beaches suburb of Mona Vale in Sydney, Australia. www.carolinerobertson.com.au

Clare Barg is a Clinical Naturopath and former Pharmacist. Her 25 years’ experience in the health care sector as a hospital- and community-based Pharmacist inspired her to embark on her Naturopathic studies and fuels her passion for health education and wellness promotion in the broader community. Clare practises in the Northern Beaches suburb of Forestville in Sydney Australia. www.naturalpotentialnaturopathy.com.au/

REFERENCES


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