The effectiveness of ginger in managing dysmenorrhea: A scoping review

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ABSTRACT

Introduction: Painful menstruation or medically termed as dysmenorrhea, affects a significant percentage of women during reproductive age and is a leading cause of reduced quality of life including absenteeism. Conventional treatments like painkillers and hormonal therapy are not always preferred or well-tolerated, therefore, the use of herbal remedies as an alternative therapy, such as ginger, has gained attention for its potential analgesic properties. Gingerols and shogaols, the main active compounds in ginger, may offer a promising alternative by inhibiting prostaglandin synthesis and reducing oxidative stress. This scoping review aims to critically examine the role of ginger in managing dysmenorrhea, focusing on its mechanisms of action and clinical effectiveness. **Materials and Methods:** A comprehensive literature search was conducted using online databases to identify relevant articles published between 2019 and 2024. The selection focused exclusively on experimental studies investigating the role of ginger in the management of dysmenorrhea. In addition to clinical outcomes, the review also explored the biochemical mechanisms underlying ginger's anti-inflammatory and analgesic effects. The initial search identified more than 2000 articles. However, after applying strict inclusion and exclusion criteria, only eight studies met the eligibility requirements for both criteria. **Results:** Most of the studies reported that ginger is effective in reducing pain severity and shortening pain duration in women experiencing dysmenorrhea, often demonstrating results that are comparable to or superior to other oral treatments. While pain intensity and duration were the most assessed outcomes, several studies also included additional indicators such as menstrual symptom questionnaires and biochemical markers like prostaglandin F2α (PGF2α), which further reinforced ginger's potential in managing dysmenorrhea. The primary mechanism behind its effectiveness is believed to be its anti-inflammatory properties, particularly its ability to inhibit prostaglandin synthesis, which plays a key role in menstrual pain. Despite variations in dosage, species, and preparation methods, the findings across studies consistently support ginger's role as an effective remedy for dysmenorrhea. **Conclusion:** Ginger shows potential as a natural, safe and effective option for dysmenorrhea. Its anti-inflammatory properties make it a promising option for improving women's quality of life and reducing the socioeconomic burden linked to dysmenorrhea. While current research supports its benefits, further higher-quality, wider-scale studies are warranted particularly to investigate whether variations in ginger species, dosage, or formulation may influence its therapeutic outcomes.

Keywords: Ginger, dysmenorrhea, pain management, herbal remedies, prostaglandin inhibition