ELSEVIER



Complementary Therapies in Medicine

journal homepage: www.elsevier.com/locate/ctim

Medicinal plants for primary dysmenorrhoea: A systematic review

Janice Pellow*, Chantelle Nienhuis

Department of Homoeopathy, University of Johannesburg, Doornfontein Campus, P.O. Box 17011, Doornfontein, Gauteng, 2028, South Africa

A R T I C L E I N F O

Keywords: Medicinal plants Herbal medicines Phytotherapy Primary dysmenorrhoea Menstrual pain

ABSTRACT

Objectives: Primary dysmenorrhoea is a common complaint experienced by many females in their reproductive years. The use of medicinal plants in the treatment of various gynaecological conditions is on the increase, despite the limited evidence available regarding efficacy and safety of their use. The aim of this systematic review was to synthesise the most recent evidence relating to the treatment of primary dysmenorrhoea with medicinal plants.

Methodology: A thorough database search was conducted using defined search terms, and randomised controlled trials (RCTs) published in English between 2008 and 2016, pertaining to the use of medicinal plants (single use) for the treatment of primary dysmenorrhoea, were assessed. Studies evaluating dysmenorrhoeal pain and associated symptoms as a primary or secondary outcome were considered and assessed by two reviewers independently of each other, using the JADAD scale and the Cochrane risk of bias tool,.

Results: 22 RCTs were included in the review; 9 were placebo-controlled trials and 13 were comparative studies to pharmacological treatment or nutritional supplements. Most of the evaluated medicinal plants showed evidence of efficacy in relieving menstrual pain in at least one RCT. The low or unclear quality of the majority of these studies however warrants caution in interpreting these results.

Conclusion: This review adds to the knowledge-base on the use of these medicinal plants in the treatment of primary dysmenorrhoea. Further research is needed before definitive conclusions can be made regarding the efficacy and safety of the use of these medicinal plants.

1. Introduction

Primary dysmenorrhoea is defined as cyclic pain of uterine origin, without pelvic pathology.¹; it affects up to 81% of menstruating females in their reproductive years², producing a significant negative impact on their quality of life. Pharmacological treatments include the oral contraceptive pill (OCP) and/or non-steroidal anti-inflammatory drugs (NSAID's), however these medications have been shown to have numerous side effects^{3,4} The use of medicinal plants as an alternative treatment for dysmenorrhoea is a growing interest amongst many women.^{5,6} Previous systematic reviews have been conducted on the effects of medicinal herbs on primary dysmenorrhoea. In a systematic review by Mirabi et al.⁵, promising evidence was found for the use of herbal medicine for primary dysmenorrhoea; this review focused on studies conducted on Iranian medicinal plants. Systematic reviews evaluating the use of ginger for dysmenorrhoea also found limited evidence of efficacy for this condition.^{7,8} There is a need to continually evaluate and summarise research in this area, which is beneficial to both healthcare practitioners, as well as their patients.

1.1. Aim

The aim of this systematic review was to determine, evaluate and integrate recent evidence on the effectiveness of medicinal plants in the treatment of primary dysmenorrhoea. RCTs related to the treatment of females suffering from primary dysmenorrhoea with medicinal plants, in comparison to placebo or conventional/nutritional treatment, were considered.

2. Methods

This systematic review was conducted in accordance with PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) and Cochrane Collaboration guidelines.^{9,10} Permission to conduct this study was granted by the Faculty of Health Sciences Higher Degrees and Research Ethics Committees at the University of Johannesburg (Clearance numbers: HDC-01-09-2016/REC-01-11-2016).

https://doi.org/10.1016/j.ctim.2018.01.001 Received 8 November 2017; Received in revised form 16 December 2017; Accepted 2 January 2018 Available online 16 January 2018 0965-2299/ © 2018 Published by Elsevier Ltd.



^{*} Corresponding author at: Department of Homoeopathy, University of Johannesburg, P O Box 17011, Doornfontein, Johannesburg, 2028, Gauteng, South Africa. *E-mail addresses*: jpellow@uj.ac.za (J. Pellow), chantellenienhuis@gmail.com (C. Nienhuis).

Table 1

UJ Health Sciences Database Search Strategy, Updated 30th August 2016.

Search number	Search	Results
1	Primary dysmenorrhoea (dysmenorrhea) + medicinal plants	765
2	Primary dysmenorrhoea (dysmenorrhea) + herbal medicine (or herbs or herbalism)	53
3	Primary dysmenorrhoea (dysmenorrhea) + phytotherapy	528
4	Menstrual pain + medicinal plants	2100
5	Menstrual pain + herbal medicine (or herbs or herbalism)	442
6	Menstrual pain + phytotherapy	1159
7	Uterine contractility + medicinal plants	690
8	Uterine contractility + herbal medicine (or herbs or herbalism)	4247
9	Uterine contractility + phytotherapy	180

2.1. Types of studies

RCTs involving the treatment of primary dysmenorrhoea using single medicinal plant applications compared to placebo or standard pharmaceutical treatment, published between 2008 and 2016 in English were eligible. Primary or secondary outcomes included evaluating menstrual pain and associated symptoms (nausea, vomiting, back pain etc.). Studies scoring below 3 on the JADAD scale were excluded.

2.2. Search strategy

The UJ Health Sciences Databases were initially searched in combination and included: AMED (The Allied and Complementary Medicine Database), Health Source: Nursing/Academic Edition, Health Source – Consumer Edition, MEDLINE, CINAHL, and SPORTDiscus. The detailed advanced search strategy is detailed in Table 1. Language filters for English and date restrictions (01/01/ 2008-30/08/2016) were applied. Thereafter Pubmed, Science Direct, Scopus, Springer Link, Wiley Online, Academic Search Complete and Ujoogle databases were also searched. The search was last updated on 30/08/2016. The search strategy included free text and Medical Subject Heading (MeSH) terms: A (dysmenorrhea, uterine contractility, and menstrual pain) and B (herbal medicine, medicinal plants, herbs, herbalism, and phytotherapy). A manual search of reference lists of identified studies was also performed. Grey literature was not included in the review.

2.3. Evaluation of studies

Literature was evaluated for relevance by means of the title and abstract. Potentially eligible articles were read and assessed by two reviewers independently of eachother. Discrepancies were discussed with a third reviewer when necessary. The JADAD scoring system, a widely used and validated tool¹¹⁻¹³ was used to evaluate the methodological quality of the studies and studies with scores of 3 and above were included. Data from each study was recorded on the Joanna Briggs Institute (JBI) data extraction form,¹⁴ and included: author, year, study design, methodology, aim and outcome. Each study was further summarized. The risk of bias was assessed as low (+), unclear (?) or high (-) in seven domains, (I = random sequence generation, II = allocation concealment, III = blinding of participants/personnel, IV = blinding of outcome assessment, V = incomplete outcome data, VI = selective outcome reporting, VII = other bias) using the Cochrane Collaboration's risk of bias tool,¹⁵ which has become the standard approach to assess risk of bias in RCTs.¹⁶

3. Theory

Prevalence rates for primary dysmenorrhoea vary from 45 to 90% worldwide,¹⁷ however only a small percentage of affected women consult a physician about their condition, and many choose to self-medicate.^{18,19} Dysmenorrhoea is typically described as a cramping pain in the lower abdomen during menstruation, and other associated symptoms may include urinary frequency, diarrhoea, headache, nausea and vomiting.²⁰ Dysmenorrhoea is more common in young nulliparous females with a family history of dysmenorrhoea; however psychological stress and lifestyle factors such as cigarette smoking, and poor diet also increases the risk of developing this condition.^{17,21–24}

The pathophysiology of dysmenorrhoea has been linked to raised levels of prostaglandins within the endometrial fluid, which causes increased uterine contractions and peripheral nerve hypersensitivity, as well as ischaemia of the myometrium, resulting in menstrual pain.²⁵ Prostaglandins are synthesized from prostanoids (biologically active derivatives of arachidonic acid), through the activity of cyclooxygenase-1 and cyclooxygenase-2 (COX 1 & 2) enzymes, which act as catalysts in the production of pro-inflammatory mediators.²⁶ NSAIDs (ibuprofen, mefenamic acid) are commonly used to alleviate menstrual pain as they inhibit prostaglandin production. Adverse effects (such as headaches, drowsiness and gastrointestinal symptoms) from NSAID use is common, however is usually dosage dependent.²⁷ OCPs suppress ovulation, reduce endometrial tissue growth and thereby result in less menstrual bleeding and prostaglandin synthesis; adverse effects typically include: headaches, breast tenderness, weight gain, and mood swings, as well as an increased risk for developing venous thromboembolism, myocardial infarction and stroke.^{25,2}

Some medicinal plants are reported to bring relief of menstrual symptoms through their analgesic, anti-spasmodic, prostaglandin inhibiting or anti-inflammatory actions; these may be a suitable alternative to conventional medicines for treating dysmenorrhoea, particularly in cases where these medicines are contraindicated or not well tolerated. The mechanism of action of many of these plants however is not well understood and needs to be studied further.^{5,29,30} Table 2 provides a summary of the effects of the medicinal plants identified in this review, relating to primary dysmenorrhoea.

4. Results and findings

A total of 279 unique studies were identified and of these, 252 studies were excluded after screening the title and abstract. 27 full text articles were assessed for eligibility and 22 studies were included in the review (Fig. 1). Appendix A shows the JADAD score, risk of bias assessment, and provides a summary of the study characteristics. The inter-rater agreement percentage between the two reviewers was 77% (17/22).

The placebo-controlled review includes 9 studies.^{70,79,87,88,90,92,93,97,98} and 13 studies comparing efficacy to either NSAIDs (ibuprofen or mefanamic acid),78,80-83,85-87,91,94,96 or nutritional supplements.^{84,89} The following medicinal plants are included: Zingiber officinale (3 RCTs),⁸⁸⁻⁹⁰ Foeniculum vulgare (3 RCTs),⁸³⁻⁸⁵ Cinnamomum zeylanicum (2 RCTs)^{78,79}, Trigonella foenum-graecum (2 RCTs)^{86,87}, Mentha piperita (2 RCTs),^{93,94} Teucrium polium (1 RCT),⁸² Triticum aestivum (1 RCT),⁹⁷ Rosa damascena (1 RCT),⁸⁰ Melissa officinalis (1 RCT),⁹¹ Morinda citrifolia (1 RCT),⁹² Anethum graveolens (1 RCT),⁸¹ Achillea millefolium (1 RCT),⁹⁸ Valeriana officinalis (1 RCT),⁷⁰ Rheum emodi (1 RCT)⁹⁵ and Thymus vulgaris (1 RCT).⁹⁶ One study each made use of tablets,⁹² a liquid extract,⁸³ the essential oil,⁹⁶ or essential oil capsules⁹³; two studies made use of tea bags,^{91,98} and the rest used dried herbal preparations in the form of capsules. One study⁸⁴ compared Foeniculum vulgare with both vitamin E and a placebo; while another⁸⁵ used a combination of *Foeniculum vulgare* with vitamin E, in comparison to ibuprofen. One open-labeled 3-arm study⁸⁶ compared Trigonella foenum-graecum to mefanamic acid and a third group that

Download English Version:

https://daneshyari.com/en/article/8563435

Download Persian Version:

https://daneshyari.com/article/8563435

Daneshyari.com