



PREFERENCES IN TREATMENT OF MENSTRUAL PAIN AMONG WOMEN- A NARRATIVE REVIEW.

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Introduction:

Menstrual pain, also known as dysmenorrhea, is a common condition that affects a large number of women worldwide. Around 45-95% of women experience menstrual pain, which can significantly affect their quality of life. In India the incidence of menstrual pain is around 84.2%. There are a variety of treatments available to manage menstrual pain, and women have different preferences for these treatments.

Methods:

A literature search was conducted using electronic databases, including PubMed, CINAHL Plus with full text, Cochrane Library (Wiley), Healthcare Journals, Medline/ PubMed, Google, Google Scholar and Science Direct. The search terms used were "menstrual pain," "dysmenorrhea," "treatment," and "preferences." The studies included in this review were selected based on their relevance to the topic, and the data were synthesised narratively.

Results:

Several studies have explored women's preferences for treatment options for menstrual pain. The most commonly preferred treatment option is non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen or naproxen. Women also prefer heat therapy, such as using a hot water bottle or a heat patch, as it provides a non-invasive, affordable, and easily accessible option for managing menstrual pain.

Other treatment options that women prefer include exercise, dietary changes, and complementary therapies such as acupuncture and aromatherapy. Exercise, especially yoga and stretching exercises, have been found to be effective in managing menstrual pain. Dietary changes, such as reducing salt and caffeine intake, have also been found to be helpful. Complementary therapies, such as acupuncture and aromatherapy, have shown promising results in managing menstrual pain, but further research is needed to establish their effectiveness.

In contrast, women are less likely to prefer hormonal treatments, such as oral contraceptive pills or hormone replacement therapy. These treatments are associated with side effects, and some women are reluctant to use them due to concerns about long-term health risks.

Conclusion:

Women have different preferences for treatment options for managing menstrual pain. NSAIDs and heat therapy are the most commonly preferred options due to their effectiveness, accessibility, and affordability. Exercise, dietary changes, and complementary therapies are also preferred by some women. Hormonal treatments are less preferred due to their side effects and long-term health risks. Healthcare providers should consider women's preferences when recommending treatments for menstrual pain and work with them to identify the most suitable treatment option for each individual. Further research is needed to explore the effectiveness of complementary therapies and to identify the factors that influence women's preferences for menstrual pain management.

Keywords: primary dysmenorrhoea, menstruation, pain, quality of life, physiotherapy, treatment

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DOI: 10.48047/ecb/2023.12.si10.00395

Introduction:

Menstrual pain, also known as dysmenorrhea, is a common condition that affects up to 95% of women who menstruate¹. This health issue is prevalent across women of various socio-economic strata, ethnicity and nationality. It causes severe physical and psychological symptoms that interferes with daily activities and quality of life³. Women with dysmenorrhoea seek various treatments to cope with their pain, ranging from self-care methods to medical interventions. However, there is a lack of comprehensive and reliable information on the effectiveness and safety of different treatment options, as well as the preferences and needs of women with menstrual pain.

Literature Review:**Incidence of Dysmenorrhoea and common complaints during menstruation:**

Dysmenorrhoea affects approximately 45-95% of young women who are in the reproductive age group and who are in their active productive phase of their lives. In India the prevalence of menstrual pain is around 84.2% and of these around 2-29% experience severe menstrual pain which does affect their studies or job^{4,5}. In a study conducted by Ju H et al, where they found out that prevalence of dysmenorrhoea among women varied from 16-91% in women of reproductive age with 2-29% women experiencing severe pain⁶. In yet another study conducted by Armour et al around 71.1% of women experienced menstrual pain irrespective of the economic status of the country to which they belong. 40.9% of female students complained of impaired classroom performances and also complained of lack of proper concentration in class. These are incidences of 20.1 % of students who were constantly absent from classes due to symptoms of dysmenorrhoea³. In the same study it was also found that the incidence of women complaining menstrual pain was 92% and they belong to the age group between 13-25. The most common complaint for these women being cyclical pelvic pain³.

Treatment options for managing menstrual pain:

Dealing with menstrual pain among women has been a regular phenomenon. Despite the effect of menstrual pain on attendance, societal participation, performance at work, decreased concentration and quality of life, most women consider menstrual pain as "normal" and silently bear it considering it as a part of women's life⁷.

In a meta-analysis conducted by Xuan Fend et al in 2018, which included 72 RCTs and in that 13 drugs

were compared for common consumption for pain relief for managing dysmenorrhoea. It was found that Flubiprofen and Tiaprofenic acid were the optimal drugs used for managing dysmenorrhoea. In another cross sectional study by Amena Ali et al in 2022 where 562 female university students in the age group 18-30 years were included for preference of medications for pain relief for dysmenorrhoea and it was found that 42% use ibuprofen, 40% consumed paracetamol while only 3% took mefenemic acid⁹. In another study by Sayako Akimiya et al in 2018 who conducted an internet-based survey among women participants within age group of 18-49 years where participants were asked for their treatment preferences for managing menstrual pain and other symptoms and most of the participants preferred OTC analgesics¹⁰. Participants of a cross sectional observational study conducted by Maria Laura Parra- Fernandez et al 2020, where among 224 participants who were administered with self-administered questionnaire for pain relief and self-care. In which 43.8% preferred non-pharmacological treatment mostly consisting of assuming antalgic position, massages and heat¹¹. In a cross-sectional study among 550 female students by Samar Karout in 2021 with the help of self-administered questionnaire for menstrual pain relief; where 36.9% females sought medical advice, while 76.4% received medicine while none took hormonal contraceptives. The common medications taken by these women were mefenamic acid, ibuprofen and paracetamol¹². In a study by Mike Armour et al in 2019, around 55% women preferred self-care along with pharmacological and non-pharmacological treatment. Paracetamol was the most commonly used drug, while 11% took medical advice from a doctor⁷. A study conducted by Minaleswara et al in 2017 for pain relief during menstruation in which 63.8% participants preferred home remedies while rest consumed Ibuprofen and diclofenac¹³.

While multiple other studies also concluded that women did prefer therapeutic exercises and preferred non-pharmacological methods which reduced their pain associated with dysmenorrhoea. In a study by Gemma Matthewman et al in 2018 participants affirmed that regular physical activity did help in decreasing menstrual pain¹⁴. In yet another systematic review and meta-analysis among women of 16-25 years, where they found that therapeutic exercises helped subjects in decreasing menstrual pain intensity and duration and also improving their quality of life¹⁵. The same conclusion was also obtained by another systematic review and metaanalysis conducted by Egzersiz et al in 2016¹⁶. The various types of

exercises that were performed by women were stretching exercises¹⁷, progressive relaxation exercises¹⁸ and aerobic exercises¹⁹ which were the multiple non-pharmacological means which also helped women relieve them from menstrual pain. In yet another study, use of thermotherapy which was found more effective than TENS²⁰. There are also a few studies conducted where women did perform some yoga exercises to relieve them from menstrual pain^{21,22}. There were also few studies which suggested use of herbs and home remedies to manage menstrual pain^{23,24}. Some school of thought also professed that acupressure and app based acupressure helped women with dysmenorrhoea^{25,26}.

Aims and Objectives:

- 1.To understand different treatment options available for managing Menstrual pain.
- 2.To understand the preferences of women in treatment of Menstrual pain.

Materials and Methods

Database search was conducted for relevant peer reviewed articles, using the search terms “Menstrual pain”, “musculoskeletal”, and “depression”, “menstrual pain”.Databases searched were

CINAHL Plus with full text, Cochrane Library (Wiley), Healthcare Journals, Medline/ PubMed, Google, Google Scholar, Science Direct (Elsevier), Scopus etc. Other potentially relevant literature was identified through bibliography searches of included articles and expert recommendation. Studies published between 2010-2023 were included for this review.Titles and abstracts of citations were then screened for relevance to the inclusion. Randomised controlled trials, cross sectional study survey, systematic review with full text available all were included out of 50 studies that were screened, 20 fulfilled the inclusion criteria and were included in the review.

Inclusion criteria:

1. Studies conducted between the years 2010-2023.
2. Studies specifically focussing on menstrual pain and treatment options available.
3. Studies including patients above 18 years of age.

Exclusion criteria:

1. Studies conducted before the year 2010.
2. Studies including patients below 18 years of age.
3. Studies including other than menstrual pain.

Analysis:

Author & Year	Study type & sample	Intervention	Outcome	Conclusion
Xuan Feng et al, 2018	Network meta-analysis, 72 RCTs were included.	13 drugs were included.	Pain relief	Flurbiprofen & Tiaprofenic acid are optimal drugs in managing primary dysmenorrhoea.
Maria Laura Parra -Fernandez et al, 2020	Cross sectional observational study, 224 women participants	Self-reported Questionnaire	Menstrual pain & self-care	43.8% preferred non-pharmacological treatment mostly antalgic position, massages & heat.
Samar Karout, 2021	Cross sectional study among 550 female students	Self-administered Questionnaire	Pain relief	Only 36.9% females with dysmenorrhoea sought for medical advice, 76.4% received medicine while none took hormonal contraceptives. Drugs commonly taken were mefenamic acid, ibuprofen and paracetamol.
Amena Ali et al, 2022	Cross sectional study, 562 female university students, 18-30 years	Medications	Pain relief	42% use ibuprofen, 40% paracetamol & 3 % mefenamic acid.
Mike Armour et al, 2019	Systematic review and meta-analysis, 947 articles were screened. Twenty-four studies including 12,526 young women were eligible.	Self-care	Pain intensity	Self-care was used by 55% of women along with pharmacological & non-pharmacological treatment.Paracetamol most commonly used. Only 11% took medical advice from a doctor.

C Banikarim , 2000	706 Hispanic female adolescents	31 item Questionnaire about presence, duration, severity, treatment & limitations of dysmenorrhoea at local urban high school	Pain intensity, absenteeism in school, social life	Treatment taken commonly was rest (58%), medications (52%), heating pad (26%), tea (20%), exercise (15%) & herbs (7%).
Minaleshewa Biruk et al, 2017	Cross sectional study, female university students	Self-reported Questionnaire	Pain relief	63.8% use home remedies. Ibuprofen & diclofenac most commonly used medication to manage dysmenorrhoea.
Sayako Akimiya et al, 2018	Internet based survey, 18-49 years	Treatment preferences	Pain & symptom relief	Participants preferred OTC analgesics.
Gemma Matthewmam et al, 2018	systematic review and meta-analysis of randomised controlled trials, 15 RCTs, 1681 participants	Physical activity	Pain intensity & duration	Physical activity is effective for treatment of primary dysmenorrhoea.
Mike Armour et al, 2019	Twenty-three trials including 2302 women were eligible and included in the meta-analysis.	Exercises	Pain intensity(VAS/ NRS), Menstrual pain duration, absenteeism	Exercise showed large effects, while acupuncture and heat showed moderate effects in reducing menstrual pain compared to no treatment. Both exercise and heat are potential alternatives to analgesic medication.
Paloma Carroquino Garcia et al, 2019	Systematic Review & Meta-analysis 16-25 years women old	Studies that included Exercise as a type of Therapy	Pain intensity, duration & QoL	Therapeutic exercise reduces intensity of pain in patients with primary dysmenorrhoea.
Egzersiz et al, 2016	Systematic review & Meta-analysis	Exercise regimen	Pain intensity & QoL	Exercises significantly reduce pain associated with dysmenorrhoea.
Narges Motahari Tabari et al, 2017	RCT, 122 female students, 18-22 years old	Exercise group and mefenamic acid group	Pain reduction and menstrual characteristics	Stretching exercises were as effective as mefenamic acid in treatment of primary dysmenorrhoea.
Çelik and Apay , 2021	RCT, 510 students	Progressive relaxation exercises	Pain intensity	Progressive relaxation exercises decreased Menstrual pain.
Aline Fernanda Perez Machado et al, 2019	RCT, 88 participants	Thermotherapy, TENS	NRS, McGill pain Questionnaire	Thermotherapy reduced menstrual pain better than TENS.
Tharini. G et al, 2018	Experimental study pre- post type, 30 subjects in age of 17-23 years	Stretching exercise, Aerobic dance	VAS, DASS	Aerobic exercise and dance group was better than stretching group in reducing menstrual pain.
Hajar Adib Rad et al, 2018	Cross over trial, 168 girl students, 18-26 years old	2 groups receiving drugs Novafen & Ginger	Pain severity by VAS	Both Herbal medicine & non synthetic drug reduce primary dysmenorrhoea.
Zahara Rakhshae, 2011	RCT, 92 girl students, 18-22 years old	3 yoga poses (Cobra, cat and fish poses)	VAS for pain, pain duration in hours	Yoga reduced the severity and duration of primary dysmenorrhoea.
Sang Dol Kim, 2019	Meta analysis of RCTs, 230 participants	Yoga program	Pain levels	Yoga is an effective intervention for alleviating menstrual pain.
Susane Blodt et al, 2018	Randomised trial, women aged 18-34 years, 221 women.	2 arm trial, one is app-based acupuncture & other group performed usual care.	NRS	Smart phone app delivered acupuncture resulted in reduction of menstrual pain.

Discussion:

This review aims to summarise the current evidence on the preferences of treatment and treatment options for managing menstrual pain among women, based on a data from previous studies in the past 10 years.

Multiple studies conducted by various researchers like Minaleshewa Biruk et al (2017), Feng X (2018), Samar Karout (2012) and Amena et al (2022) did document about the frequent use of OTC analgesics among women, which included mostly Ibuprofen, Paracetamol, Mefenamic acid etc. These women did consume these medications mostly without prescription. So, the side effects for the same with prolonged use did affect them. Moreover, most women tried to get some ease with self-care, while some resorted to rest, consumption of herbal medications and things like ginger and tea^{23,24}.

While most women also preferred some form of physical activity on a daily basis, performed exercises like stretching, aerobic exercises and progressive relaxation to help them relieve them from menstrual pain. These measures helped mostly by increasing vascularity to ischaemic spasmodic areas, secretion of endorphins and more over these treatments did not have any side effects as suggested by the previous studies^{14,15,16,17,18,19}.

Non-pharmacological self-care techniques or lifestyle interventions, either physical or psychological, is mostly practiced by women themselves such as exercise (including yoga and Pilates), heat, meditation, aromatherapy, self-massage or acupressure allowing women to potentially reduce their menstrual pain and reduce need for analgesics and improve their health-related quality of life.

In a recent narrative review also it was discussed that though prevalence of menstrual pain was high among younger women still seeking proper guidance and treatment to resolve menstrual pain was minimal. Also many women preferred non pharmacological treatment and resorted to exercises but these need to be more structured²⁷.

There has to be more awareness sessions and education being imparted to young women regarding menstruation, menstrual pain, measures available to manage it, seeking help regarding it mostly in developing countries where discussion regarding menstruation is still considered as a taboo.

Conclusion:

Dysmenorrhoea is the commonest menstrual disorder. Women of different ethnicities respond differently to managing this. There are multiple ways to manage menstrual pain like NSAIDs, OCPs, herbal remedies, TENS, Physical activities, yoga, exercises, acupressure, hot packs and self-care. As compared to pharmacological means women preferred nonpharmacological means to alleviate menstrual pain.

Findings suggest the need for educating adolescent girls on appropriate and effective management of dysmenorrhea. A proper exercise prescription will make a smarter solution than self-care alone .

Limitation and Future recommendations:

More literature reviews needs to be done on specific categories of medication or specific alternate mode of treatment for managing menstrual pain.

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