

www.dimpsij.in

Review Article

Herbal remedies and dietary supplement during menstrual cycle

Shivhari S. Kayande^{*1}, Shruti R. Patil¹, Imtias T. Ansari¹

1 JES College of Pharmacy, Nandurbar, Maharashtra, India

Article DOI: Applied for

Corresponding author - Shivhari S. Kayande, Email: shivkayande12@gmail.com

Received - 29/09/2021

Revised - 30/09/2021

Accepted - 01/10/2021

Keywords:

Herbal remedies,
Dietary supplement,
Menstrual Cycle,
Dysmenorrhoea,
Premenstrual syndrome,
NSAIDS

Cite this article as -

KayandeSS, Patil SR, Ansari IT, Herbal remedies and dietary supplement during menstrual cycle, Doctrines Intgra. Med., Ph Sc. Int. J., 2021, 01 (02), 38-44.

ABSTRACT

Dysmenorrhea, PMS (premenstrual syndrome), Fibroids are the major disease occurs during menstrual cycle. PMS refers to group of symptoms occurs between Ovulation and period, treatment including Non-steroidal Anti-inflammatory Drugs (NSAID) and hormonal therapy. A effective alternative approach is "Dietary supplements ". The Dietary supplements includes Herbs, botanical plant, vitamins, mineral, enzyme and amino acids. The herbal remedies commonly used for premenstrual syndrome (PMS) and Dysmenorrhea, it including calcium, magnesium, vitamin B6, primrose oil (Oenothera biennis), Chaste tree (Vitex agnus castus), ginkgo, and Ginger.

©2021 DIMPSIJ.

This work is published and licensed by Doctrines of Integrative Medicine, Pharmacy & Science-International Journal (DIMPSIJ). It incorporates Creative Commons Attribution-Non Commercial 4.0 International (CC BY-NC 4.0) License.

Introduction

Premenstrual syndrome (PMS) and Dysmenorrhea is a common health problems in a women. Previous study data shows about 90% women suffering from the Premenstrual syndrome (PMS), approximately 5 to 8 % women have severe symptoms [1]. Characteristics symptoms of premenstrual syndrome include physical symptoms, psychological symptoms and behavior symptoms. The physical symptoms include weight gain, breast tenderness, abdominal swelling and musculoskeletal pain. General common symptoms of depression, headache, insomnia, irritability, lack of concentration, painful menstruation, or weight gain. However many researcher believe , the PMS is related to change in both sex hormone. The risk factors for premenstrual syndrome includes family history of PMS, domestic violence, physical trauma and emotional trauma [1,2].

Dysmenorrhea

The dysmenorrhea causes painful heavy menstrual blood flow due to uterine contractions [3]. Generally prostaglandin causes uterine contractions which leads to menstrual cramps, the allopathy treatment include NSAID and oral contraceptives pills [9].

Treatment methodology

Both the condition has same treatment for the menstrual pain that is NSAIDs as allopath treatment. But now days about 15 to 18 % women becomes unresponsive to the NSAIDs. These drugs also have some side effects including stomach aches, feeling sick, diarrhea and anemia. Sometimes in rare cases, NSAIDs cause problems with heart, liver kidney and blood circulation. Due to severe side effects and unresponsive efficacy many people turn to natural dietary supplement [1,3,8].

Need of dietary supplements

About 80-90% women were suffering from menstrual pain or abdominal cramps. Near 2-20 % have severe menstrual pain cycle [1]. During menstrual cycle heavy loss of blood which cause deficiency of iron, Vitamin C and vitamin B. These are responsible for to promote blood cell production which can prevent anemia. Low level of vitamin B12 may cause fatigue, dizziness and nervousness. Some of the herbal plants are useful for the treatment of dysmenorrhoea like ginger, ginkgo and chaste berry.

Dietary Supplements

Iron

Dietary Supplements

Iron

Iron deficiency is most common nutritional deficiency in women due to loss of iron during bleeding which leads to iron deficiency anemia. Blood loss in menstruating women will increase the risk of iron deficiency anemia [4]. Male need 8 mg of iron daily while women need 18 mg of iron daily, Women required more iron than male due to loss of iron during menstrual cycle [5]. Near about 1 mg of iron lost every day bleeding. Iron play major role in blood cell productions, About 70-75% iron of body found in blood cell in the form of haemoglobin. Iron Supplements in menstruating women is effective treatment to maintain level of iron in the Body. Women can also avoid iron deficiency by maintaining iron rich diet like Dark green leafy vegetables, chicken, fish, beef and dried fruits. [6] Active iron supplementation may reduce the risk of anemia. Plant's based active iron supplements also available, which essential for maintaining iron level to avoid anemia, and it also help to support health immune system [7].

Magnesium

Dysmenorrhoea and PMS suffering women are deficient in magnesium. Whenever menstrual cramps occurs,

cause pain due to uterus contraction. Previous data shows that, combination of magnesium with vitamin B6 relief from physical and emotional symptoms [8,10]. Magnesium acts as muscle relaxants which relax the uterus muscle. Magnesium naturally found in green vegetable, almond and peanuts. Daily required magnesium for adult men is 400-420 mg per day while for adult women is 310-320 mg per day [11]. Magnesium is very effective treatment methodology for menstrual cramps by relaxing muscle [10].

Vitamin-C

L-ascorbic acid is an essential nutrient for humans and animals. [12] Vitamin C deficiency may increase the risk of iron deficiency anemia by reducing iron absorption and increasing of bleeding during menstrual cycle. [13] According to a report, If take vitamin C in right amount, it can reduce the level of progesterone inside uterus and help reduce bleeding. It might also help your body to absorb iron, which can help prevent iron deficiency anemia. [13]

Omega-3-fatty acid

Omega-3-fatty acid is essential supplement for human, especially women. Those women are Omega-3-fatty acid deficient, highly susceptible for

PMS. Omega-3-fatty acid deficiency symptoms include fatigue, mood swings, depression and difficult menstrual cycle for women. [14] Women suffer from PMS and heavy bleeding may get relief by increasing consumption of Omega-3-fatty acid. According to previous studies, Omega-3-fatty acid may be effective for dysmenorrhea [15]. Omega-3-fatty acid may reduce Psychiatric symptoms of PMS like depression, mood swings and lack of concentration. [16]

HERBAL REMEDIES

Evening primrose

Evening primrose (*Oenothera Biennis*) belongs to the Onagraceae family. Evening primrose chemically contains about 70% linoleic acid and 9% γ -linolenic acid. [17] Evening primrose also contains palmitic acid, oleic acid and stearic acid. Many women use primrose oil for the treatment of PMS and breast pain. γ -linolenic acid may reduce symptoms of PMS and breast pain by reducing inflammation (anti-inflammatory properties) and by inhibiting prostaglandins. [17] Also helps to support hormonal balance. Primrose oil is useful in treatment of hot flashes during menopause [18, 19].

Chesteberry

Chesteberry (*Vitex Agnus-Castus*) plant

belongs to Lamiaceae family. *Vitex* chemically contain essential oils, flavonoids, iridoids, and diterpenoids, as well as a diterpene lactam, vitexlactam A. [20] Fruits extract of *Vitex* used as dietary supplements for estrogen and progesterone hormone imbalance during menstrual cycle. [21] Those women take 1 tablet 3 times daily may get relief from symptoms of premenstrual syndrome. [22] It also re-establishes normal balance of progesterone during menstrual cycle. [22] Side effects of chesteberry generally are dopaminergic in nature and may include mild gastrointestinal complaints, dizziness, headache, tiredness, and dry mouth. [23]

Ginkgo biloba

The leaves of Ginkgo are obtained from the dioecious tree *Ginkgo biloba*, belonging to family *Ginkgoaceae*. Ginkgo leaf Extracts contain phenolic acids, proanthocyanidins, flavonoid, glycosides, such as myricetin, kaempferol, isorhamnetin, quercetin, and terpenylactones, ginkgolides and bilobalides. [24] *Ginkgo biloba* can reduce the severity of PMS symptoms. [25] Participants took ginkgo or placebo tablets (40 mg) three times per day, from day 16 of the cycle to day 5 of the next cycle, for 2 consecutive cycles.

Overall severity of symptom in the ginkgo group was 34.80% before the treatment and reduced to 11.11% after the treatment. [26]

Ginger

Ginger (*Zingiber officinale*) belonging to the family *Zingiberaceae*. In fresh ginger, gingerols are the major polyphenols, such as 6-gingerol, 8-gingerol, and 10-gingerol. Gingerol has antioxidant, anti-inflammatory properties and also reduces the levels of prostaglandins. [27] Ginger can be used to treat dysmenorrhoea and menstrual cramps [28]. It also reduce the symptoms of PMS, Based on the results of this study, maybe ginger is effective in the reduction of severity of mood and physical and behavioral symptoms of PMS and we suggest ginger as treatment for PMS[29].

Material and methods

For the literature search, Google scholar, PubMed, and Scopus internet search engines were used to find updated recorded materials. The literature was searched in English language only.

Conclusion

The allopathic treatment of menstrual cramps have several side effects, the dietary supplement during menstrual

cycle have beneficial effects for reducing the menstrual pain without causing any side effects.

Acknowledgements

Authors are thankful to the Dr. R. R. Patil, Principal, JES College of Pharmacy, Nandurbar for providing facilities and guidance in this topic.

References

- [1] Yonkers KA, O'Brien PMS, Eriksson E, Premenstrual syndrome, *The Lancet*, 2008; 371(9619), 1200-1210.
- [2] Premenstrual syndrome [Internet], © Healthline, [Accessed on 15/09/2021] Available at www.healthline.com
- [3] Dysmenorrhea [Internet], © Cleveland clinic, [Accessed on 15/09/2021] Available at www.clevelandclinic.org
- [4] Mishra V, Verneker R, Gandhi K, Choudhary S, Lamba S, Iron deficiency anemia with menorrhagia ferric carboxymaltose a safer alternative to blood transfusion, *J Mid-life Health*, 2018; 9 (2) : 92-96
- [5] Nutrition and woman [Internet], © Betterhealth, [Accessed on

- 15/09/2021] Available at www.betterhealth.vic.gov.au/
- [6] Iron and woman [Internet], © Myfooddata, [Accessed on 15/09/2021] Available at www.myfooddata.com
- [7] Fernández-Gaxiola AC, De-Regil LM, Intermittent iron supplementation for reducing anaemia and its associated impairments in menstruating women, *Cochrane Database of Syst. Rev.*, 2011; (12) :1-123
- [8] Murphy PA, Herbal and dietary therapies for primary and secondary dysmenorrhoea, *Cochrane Database of Syst. Rev.*, 2001; (3): CD002124.
- [9] Marjoribanks J, Proctor M, Farquhar C, Sangkomkarn US, Derks RS, Non steroidal anti-inflammatory drugs for primary dysmenorrhoea, *Cochrane database of systematic reviews*, 2003; (4): CD001751.
- [10] Fathizadeh N, Ebrahimi E, Valiani M, Tavakoli N, Yar PMH, Evaluating the effect of magnesium and magnesium plus vitamin B6 supplement on the severity of premenstrual syndrome, *Iran J Nurs Midwifery Res*, 2010, Dec; 15 (1): 401-405.
- [11] Magnesium and woman [Internet], © Clevelandclinic, [Accessed on 15/09/2021] Available at www.my.clevelandclinic.org/
- [12] Al-Katib SR, Al-Kaabi MMH, Al-Jashamy KA, Effects of vitamin C on the endometrial thickness and ovarian hormones of progesterone, estrogen in married and unmarried women", *Am. J of Res Comm*, 2013; 1(8):24-31.
- [13] Vitamin C deficiency anemia [Internet], © Novusbio, [Accessed on 15/09/2021] Available at www.novusbio.com/
- [14] Supplement [Internet], © Mountsinai, [Accessed on 15/09/2021] Available at www.mountsinai.org
- [15] Rahbar N, Asgharzadeh N, Ghorbani R, Effect of omega-3 fatty acids on intensity of primary dysmenorrhea, *IJ Gyn Obst*, 2012; 117 (1):45-47.
- [16] Sohrabi N, Kashanian M, Ghafoori, SS, Malakouti SK, Evaluation of the effect of omega-3 fatty acids in the treatment of premenstrual syndrome- a pilot trial, *Complementary therapies in medicine*, 2013; 21 (3): 141-146
- [17] Timoszuk M, Bielawska K, Skrzydlewska E, Evening primrose (*Oenothera biennis*) biological

- activit dependent on chemical composition, *Antioxidants*, 2018; 7 (8) : 108.
- [18] Neh F, Fatehi S, Sohrabi MR, Alizadeh K, The effect of oral evening primrose oil on menopausal hot flashes- a randomized clinical trial, *Arch. Gyn Obst*, 2013; 288(5):1075-1079.
- [19] Bayles B, Usatine R, Evening primrose oil, *Am. Family Physician*, 2009; 80(12):1405-1408.
- [20] Chen SN, Friesen JB, Webster D, Nikolic D, Breemen RB, Wang ZJ, Pauli GF, Phytoconstituents from *Vitex agnus-castus* fruits *Fitoterapia*, 2011; 82(4): 528-533.
- [21] Chesteberry [Internet], ©Peacehealth, [Accessed on 15/09/2021] Available at www.peacehealth.org
- [22] Premenstrual syndrome [Internet], ©Wnyurology, [Accessed on 15/09/2021] Available at www.wnyurology.com
- [23] Hamm RB, Chasteberry, *Am. Family Physician*, 2005; 72(5): 821- 824.
- [24] *Ginkgo biloba* [Internet], © Wikipedia, [Accessed on 15/09/2021] Available at www.wikipedia.org
- [25] Ozgoli G, Selselei EA, Mojab F, Majd HA, A randomized placebo-controlled trial of *Ginkgo biloba* in treatment of premenstrual syndrome, *TJACM*, 2009; 15(8): 845-851.
- [26] *Ginkgo biloba* [Internet], © Natural medicine journal, [Accessed on 15/09/2021] Available at www.naturalmedicinejournal.com
- [27] Mao QQ, Xu XY, Cao SY, Gan RY, Corke H, Li HB, Bioactive compounds and bioactivities of ginger (*Zingiber officinale*), *Foods*, 2019; 8(6): 185.
- [28] Daily JW, Zhang X, Kim DS, Park S, Efficacy of ginger for alleviating the symptoms of primary dysmenorrhea: a systematic review and meta-analysis of randomized clinical trials, *Pain Medicine*, 2015; 16 (12): 2243-55.
- [29] Khayat S, Kheirkhah M, Behboodi Moghadam Z, Fanaei H, Kasaeian A, Javadimehr M, Effect of treatment with ginger on severity of premenstrual syndrome symptoms. *ISRN Obstet Gynecol*. 2014 May 4; 2014:792708.