

WOMEN'S HEALTH ISSUE: A BRIEF OVERVIEW ON IRREGULARITIES IN MENSTRUATION

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ABSTRACT: Menstruation is women's monthly period or bleeding. Menstruation starts at puberty and it stops temporarily during pregnancy but permanently at menopause. A normal menstrual cycle lasts 28 days, plus or minus seven days. Irregular periods are common and normal during puberty and just before menopause. At least 30 percent of women have irregular periods during their child bearing years. Menstrual irregularities include a variety of conditions in which menstruation is irregular, heavy, painful, or does not occur at all. Common types of menstrual irregularities include amenorrhea, dysmenorrhea, menorrhagia, oligomenorrhea and polymenorrhea. These conditions can be caused by chronic medical issues or by changing medical or emotional circumstances. In most cases, the condition causing irregular periods can be resolved or treated. In this review article, we discussed different aspects of women's health issues related to menstrual irregularities including causes, symptoms, diagnosis and preventive measures including yoga, ayurveda and nutritional supplements. Yoga is the effective exercise to cure irregular periods naturally. To stay away from the irregular menstruation healthy diet, proper and sufficient exercise must be follow.

Key Words: Menstruation, Irregularities, Menstrual Cycle, Hormones, Menopause.

INTRODUCTION

Menstruation is women's monthly period or bleeding. During menstruation, women's body releases hormones (special chemicals) to help prepare for pregnancy. As the levels of hormones increase, the lining of uterus becomes thicker. During the middle of the menstrual cycle, ovulation occurs. Ovulation is when the ovaries release an egg. If the egg does not get fertilized, it passes through the uterus and out of the body. The lining of the uterus, together with blood and mucus, breaks down and sheds. This blood flow passes through the vagina and causes your monthly period [1].

It is normal vaginal bleeding that occurs as part of a woman monthly cycle. The menstrual blood is partly blood and partly tissue from inside the uterus. It passes out from the body through the vagina [2].

The menstrual cycle is the regular natural change that occurs in the female reproductive system that makes pregnancy possible. It is characteristics of primates (monkeys, apes and humans) [3]. Menstruation starts at puberty and it stops temporarily during pregnancy but permanently at menopause [2]. A normal menstrual cycle lasts 28 days, plus or minus seven days. Menstrual bleeding is considered irregular if it occurs more frequently than every 21 days or lasts longer than 8 days. Missed, early, or late periods are also considered signs of an irregular cycle. To determine whether your menstruation schedule is irregular, count from the last day of your previous period and stop counting on the first day of your next. Repeat this for three months. "If the number of days between stopping and starting your period is significantly different each month, you have an irregular cycle," [4].

Menstrual irregularities are common abnormalities of a woman's menstrual cycle. Menstrual irregularities include a variety of conditions in which menstruation is irregular, heavy, painful, or does not occur at all [5]. Irregular periods are simply those that are not regular. If you suffer from irregular periods, you simply will not know when your period is going to appear [6].

You may have irregular cycle if:

1. The time between each period starts to change.
2. You are losing more or less blood during a period than usual.
3. The number of days that your period lasts varies significantly [7].

COMMON TYPES OF MENSTRUAL IRREGULARITIES INCLUDE

1. Amenorrhea: Amenorrhea may be defined as the absence of menstruation for 3 or more month in women with past menses (designated secondary amenorrhea) or the absence of menarche (i.e., the onset of menses) by the age of 16 years in girls who have never menstruated (termed primary amenorrhea). The term postpill amenorrhea is often used to refer to women who do not menstruate within 3 month of discontinuing oral contraceptives. The absence of menstruation is physiologic in prepubertal girls, during pregnancy and lactation, and following the menopause.

2. Dysmenorrhea (painful menstrual periods): Although menstruation is often painless, many women suffer from discomfort or pain in association with periods at some time during their reproductive life. It is very useful to classify dysmenorrhea to two groups:

- Dysmenorrhea due to evident pelvic disease
- Dysmenorrhea without evident pelvic disease

a. Dysmenorrhea caused by pelvic disease:

Apart from the discovery of abnormal physical signs of endometriosis or pelvic inflammatory disease on examination, two features suggest that there may be underlying pelvic disease. First, the symptoms may appear after some years of painless menstruation, and secondly, there may be other symptoms of pelvic disease, such as menorrhagia, dyspareunia or infertility. An acute colicky pain may occur if a fibromyomatous polyp is being extruded through the cervix, and in some women an intrauterine contraceptive device will cause colicky dysmenorrhea. Dysmenorrhea caused by pelvic disease is best treated according to the cause.

b. Dysmenorrhea without evident pelvic disease:

This type of dysmenorrhea usually occurs in girls or young women. The pain is spasmodic or colicky in nature, usually starting on the first day of the period. It may last for several hours or continue throughout the first and second day. Not infrequently the menstrual flow is scanty at first, and the pain often becomes easier when the flow is properly established. The acute colicky pain may be followed by a dull ache. Nausea and vomiting, and occasionally diarrhea may occur, and sometimes headache and fainting. Examination usually reveals no general local abnormality. The patient is physically healthy, although she may be somewhat tense. A vaginal examination, or if the hymen is intact a rectal examination, must always be made to exclude unexpected pelvic pathology. In nearly every case the genital tract is normal.

The pain is usually due to the spasm of uterine muscle, which is sufficiently intense to cause ischemia. The cause of the muscle spasm is not certain, and several factors have been discussed.

Organic stricture of the cervix is exceedingly rare, dilatation of the cervix is sometimes practiced but seldom effects a permanent cure. Dysmenorrhea occurs only when ovulation has occurred (the women with OC are painless). It is probable that necrosis of the endometrium is caused by prostaglandin's $\text{PGF}_{2\alpha}$, and this also causes spasm of the myometrium. The endometrial content of $\text{PGF}_{2\alpha}$ increases under the influence of progesterone in the second half of the cycle. Dysmenorrhea is often described as psychosomatic, because of the lack of recognizable pelvic pathology, it is wrong to state that all these patients are neurotic. The majority of patients are entirely free from any fear or phobia. [8]

c. Menorrhagia (heavy menstrual periods):

Menorrhagia is defined as excessive menstrual bleeding. It occurs in one out of every five women. Your period is considered excessive if:

- Bleeding lasts longer than seven days.
- Bleeding affects your daily activities.
- Double protection (a tampon and a pad) is needed.
- Your tampon or pad needs to be changed more than every two hours.

During a heavy period, you may:

- Feel tired and nauseated
- Feel depressed or moody
- Experience severe cramps
- Have headaches. (9)

d. Oligomenorrhea:

Oligomenorrhea (or oligomenorrhoea) is infrequent (or, in occasional usage, very light) menstruation. More strictly, it is menstrual periods occurring at intervals of greater than 35 days, with only four to nine periods in a year. Also, menstrual periods should have been regularly established previously before the development of infrequent flow. Oligomenorrhea can be a result of prolactinomas (adenomas of the anterior pituitary). It may also be caused by thyrotoxicosis [10].

e. Polymenorrhea:

If your menstrual cycle length is less than 21 days, you will have more number of periods than the normal number per year. Hence, when periods occur too frequently and at an interval of less than 21 days, it is known as polymenorrhea. 'poly' means many; thus, there are many cycles per year. Typically, the woman will have a period every 17 to 21 days, as against every 30 to 40 days. Thus, there will be many, frequent periods and quick intervals. Flow could be scanty to moderate to heavy [11].

CAUSES

For older women between the ages of 45 and 55, the most probable cause of irregular periods is the fluctuating hormone levels. The closer a woman gets to menopause, the more she will be affected by hormone fluctuations. Leading up to menopause hormone production declines and the ovaries work less until a woman stops menstruating completely [12].

- **Having an intrauterine device (IUD):** Having an IUD may also cause heavy menstruation, missed periods [13].
- **The pill:** Birth control pills can make your periods lighter, or cause you to miss periods or have less or more frequent periods — or even no periods at all.
- **Other illnesses:** Thyroid disorders can cause irregular periods if blood levels of the thyroid hormone go too low or too high. Other health conditions that may cause an irregular cycle include sexually transmitted diseases, diabetes, fibroids, eating disorders, and endometriosis.
- **Age:** When teens first start having periods, their menstrual cycles may not always be on the same schedule every month. It may take several years to settle into a pattern. In addition, missed periods and lighter or heavier periods are common as women near menopause.
- **Stress:** Chronic stress or even short-term anxiety about a specific problem can wreak havoc with your hormone balance, causing a missed period and irregular cycle.
- **Extreme exercise or dieting:** Exercising too much can throw off the timing of menstrual bleeding and sometimes stop it. "It's common for endurance athletes to have missed periods," Being underweight, whether from extreme exercise, dieting, and an eating disorder, or illness, can have the same effect [4].

- **Polycystic ovary syndrome (PCOS):** Polycystic Ovarian Syndrome (PCOS) is a condition that results from abnormal levels of certain hormones, causing women to have irregular or no menstrual periods. PCOS is a genetic condition, meaning that you were born with it. You may have a family member with PCOS and it may affect your children. In some women, hormone changes may begin as early as their first menstrual cycle. In other women, changes occur over time. There is no cure for PCOS, but its symptoms can be treated and may include:
 - Excess hair on the face and body
 - Acne
 - Darkened color and change in texture of the skin along the neck, armpits, groin and inner thighs
 - Trouble getting pregnant
 - Vaginal yeast infections
 - Hair loss
 - Obesity [9].
- **Pregnancy or breast-feeding:** A missed period can be an early sign of pregnancy. Breast-feeding typically delays the return of menstruation after pregnancy.
- **Pelvic inflammatory disease (PID):** This infection of the reproductive organs can cause irregular menstrual bleeding. [14]

THE SYMPTOMS OF IRREGULAR PERIODS:

Most common symptoms are as follows;

- Painful cramping
- Abnormal duration of bleeding
- Blood clots
- Breast tenderness
- Headache
- Early or late periods
- Fluid retention [12].

OTHER COMMON SYMPTOMS:

- Burning with urination
- Difficulty getting pregnant or infertility
- Fever
- Lower back pain
- Nausea and vomiting
- Painful bowel movements
- Painful sexual intercourse
- Pelvic or abdominal pain or cramps
- Symptoms of perimenopause or menopause, such as hot flashes, headaches, mood swings, heart palpitations, forgetfulness, and sleeping problems
- Unusual vaginal bleeding [5]

DIAGNOSIS:

A health care provider diagnoses menstrual irregularities using a combination of the following:

- Medical history
- Physical examination
- Blood tests
- Ultrasound examination
- Endometrial biopsy- a small sample of the uterus's endometrial lining is taken to be examined under a microscope
- Hysteroscopy- a diagnostic scope that allows a health care provider to examine the inside of the uterus, typically done as an outpatient procedure
- Saline infusion sonohysterography- ultrasound imaging of the uterine cavity while it is filled with sterile saline solution
- Transvaginal ultrasonography- ultrasound imaging of the pelvic organs including the ovaries and uterus, using an ultrasound transducer that is inserted into the vagina. [15]

PREVENTION:

Benefits of yoga

Irregular period is common in women. Yoga is the effective exercise to cure irregular periods naturally. Many women notice a more regular menstrual cycle and an easier period. Better sleep and better relationship with their partner is an added bonus of yoga practice [16]. Yoga is the best medicine to cure problems like menstruation disorder, heavy blood flow and painful menstruation periods.

Yoga poses (exercises) benefits for irregular periods (Menstruation disorder)

- Yoga helps to reduce stress.
- Regular practice cures the abdominal disorders.
- Help to relax your body.
- Regulate every part of body.
- Relieve menstrual pain.
- Improve the function of abdominal organs.



Figure: Different Yoga Poses

Yoga poses for irregular periods:

1. Bhujangasana
2. Seven pranayama
3. Dhanurasana
4. Paschimottanasana
5. Halasana
6. Vajrasana
7. Badhshkonasana
8. Surya Namaskar (Sun Salutation) [17].

TREATMENT:

If the irregular periods occur during puberty or as the woman approaches the menopause, treatment is not usually necessary.

- If irregular bleeding is due to contraception and continues for months, the woman should talk to a health care professional about alternative contraception options.
- If a woman has PCOS, is overweight or obese and also has irregular periods, losing weight may help.
- A lower weight means the body does not need to produce so much insulin. This leads to lower testosterone levels and a better chance of ovulating. The doctor may prescribe metformin, an insulin-lowering oral drug for type 2 diabetes, which can help ensure ovulation and regular periods.
- A low-dose birth control pill that containing a combination of estrogen and progesterone may help. This will decrease androgen production and will help to correct abnormal bleeding. Alternatively, taking progesterone for 10 to 14 days each month is likely to regulate the periods.
- If thyroid problems cause irregular bleeding, treatment for the underlying problem is likely to be prescribed. This may include medication, radioactive iodine therapy or surgery.
- Psychological therapy may help if emotional stress, an eating disorder or sudden weight loss have caused irregular periods. This may include relaxation techniques, stress management, and talking to a therapist.
- Medical treatments include using hormonal contraceptives to help regulate menstrual cycles, or hormone supplements if you have a specific imbalance [18].

MARKETED MEDICINES USED IN CASE OF MENSTRUAL IRREGULARITIES:

PROVERA TABLETS

Provera tablets contain the active ingredient medroxyprogesterone acetate, which is a synthetic form of the naturally occurring female sex hormone, progesterone. It is used to treat various disorders of the menstrual cycle like dysfunctional menstrual bleeding, secondary amenorrhea and mild to moderate endometriosis. [19]

Other marketed products used to treat irregularities of menstrual are as Amen, Curretab, Cycrin and Prodroxy

AYURVEDA FOR IRREGULAR MENSTRUATION:

In ayurveda the condition is known as “VishamaRajahpravritti”. Irregular periods in women are characterized by headache and abdominal pain. There may be pain in the back or around the pelvic region. This can cause mood changes in women.

Ayurvedic remedies for irregular menstruation:

- **Ginger:**

Ginger is highly effective home remedy for menstrual disorders. A piece of fresh ginger should be ground and boiled in a cup of water for a few minutes. This infusion can be sweetened with sugar and taken thrice daily after meals.

- **Sesame seeds:**

Sesame seeds help in alleviating menstrual problems. Half a teaspoon sesame seed powder is taken with hot water twice a day, acts well in reducing spasmodic pain during menstruation in young, unmarried anaemic girls. If regularly used two days prior to the expected periods, it can cure scanty menstruation. A warm hip containing a handful of crushed sesame seeds is helpful.

- **Unripe Papaya:**

The unripe papaya has a quality that can control the contractions of the muscle fibres of the uterus and is beneficial for inducing proper menstrual flow. Papaya is also found helpful in young unmarried girls when menstruation ceases due to stress or fright.

- **Coriander seeds:**

Boil one teaspoonful of coriander seeds in two cups of water till it is reduced to one cup. Add sugar to taste and drink. Repeat 2 or 3 times a day. In the treatment of excessive menstruation, 6 grams of coriander seeds should be boiled in half a litre of water.

- **Cinnamon**

Cinnamon is considered useful for regulating menstrual cycles and reducing menstrual cramps. According to traditional Chinese medicine, it is believed to have a warming effect on the body. Also, it contains hydroxychalcone that helps regulate insulin levels and is suspected to have an effect on menstrual regularity. A study analyzing the effects of cinnamon extract on menstrual cycles in women with polycystic ovary syndrome is currently underway.

- **Aloe Vera**

Aloe vera helps treat menstrual irregularities naturally by regulating your hormones.

- **Turmeric**

Being a warming herb, turmeric is also considered helpful in regulating menstruation and balancing hormones. Its emmenagogue properties help stimulate menstrual flow. Moreover, its antispasmodic and anti-inflammatory properties relieve menstrual pain. Consume one-quarter teaspoon of turmeric with milk, honey or jaggery. [20, 21]

SUPPLEMENTS USED IN IRREGULAR MENSTRUATION:

The supplements recommended below have been studied in clinical trials and have been found to be effective in connection with irregular periods. For best results you should take them over a period of three months, at the end of which you should be reassessed in order to monitor improvements and changes and then adjust the supplement programme according to your new condition.

Multivitamin and Mineral:

A good quality multivitamin and mineral would form the foundation of your supplement programme to make sure that you are getting a 'little bit of everything'. You then add in those nutrients in slightly higher amounts which are known to be helpful for irregular periods.

B Vitamins

These are often called the 'stress' vitamins because they can help you to cope with the pressures of everyday life. As stress can be such an important factor in causing irregular periods it is important that you have some help in dealing with it. Vitamins B2, B3 and B6 are also necessary for thyroid hormone production and B5 (pantothenic acid) is essential for optimum adrenal function. Both imbalances in thyroid function and stress can affect your cycle. The easiest way to make sure you are getting a good supply of these vitamins is to take them in the form of a good B-complex tablet. B vitamins are synergistic, which means that they work together.

Antioxidants

Antioxidants are particularly relevant with irregular periods. It is believed that antioxidants have the ability to prevent cells from mutating. In other words, they prevent cells from becoming 'abnormal'. This is extremely important if you have been diagnosed with thickening of the womb lining (endometrial hyperplasia) because you don't want the cells to mutate. Antioxidants include vitamins A, C and E and the mineral selenium. Their effects have been proven: women with womb tumours have been shown to have less of both selenium and vitamin E than women without them so make sure you are getting enough of these valuable nutrients.

Magnesium

This mineral has been classed as 'nature's tranquilliser', so it is an essential inclusion in the diet of anyone suffering from irregular periods. In fact, anyone in today's hectic society will benefit from a magnesium supplement. Stress is often a factor in period irregularity, and this mineral will help to redress the balance of a stressful lifestyle [6].

DISEASES AND CONDITIONS THAT AFFECT MENSTRUATION:

- **Polycystic ovarian syndrome (PCOS):** It is a condition in which an number of small, fluid-filled sacs known as **cysts** develops in the ovaries. A woman with PCOS does not ovulate, and she does not release an egg every month. Symptoms include irregular or no periods, obesity, acne, and excess hair growth.

- **Thyroid disorder:** Thyroid disorder can cause irregular periods. The thyroid gland produces hormones that affect the body's metabolism.

- **Cervical cancer or uterine cancer:** which is cancer of the womb, may, in rare cases, cause bleeding between periods or during sexual intercourse.

- **Endometriosis:** It is a condition in which cells that are normally found inside the uterus, called endometrial cells, grow outside it. In other words, the lining of the inside of the uterus is found outside of it. Endometrial cells are the cells that shed every month during menstruation, so endometriosis is most likely to affect women during their childbearing years. The cellular growth involved in endometriosis is not cancerous.

There may be no symptoms, but it can be painful, and it can lead to other problems. If released blood gets stuck in surrounding tissue, it can damage the tissue, causing severe pain, irregular periods, and infertility.

- **Pelvic inflammatory disease:** (PID) is an infection of the female reproductive system. Among women, it is the most common and serious complication of sexually transmitted infections (STIs), apart from AIDS. If detected early it can be treated with antibiotics, but if it spreads, it can damage the fallopian tubes and the uterus, resulting in chronic, or long-term, pain. There are many symptoms, and they including bleeding between periods [18].

CONCLUSION:

An irregularity in menstruation is a condition in which a woman doesn't get her periods regularly. These irregularities may be due to various factors like too much exercise, stress, improper diet, polycystic ovarian syndrome, birth control pills, pregnancy etc. So to have regular menstruation, a woman must follow proper and healthy diet, sufficient exercise, and live a tension free life. Many women with yoga practice notices a more regular menstrual cycle and an easier period. The above mentioned ayurvedic remedies can also help to regulate the menstruation.

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