

Flow Dairies: Reviewing Menstrual Disorders

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ABSTRACT

Menstruation stigma is form of misogyny. Cultural norms and religious taboos regarding menstruation are frequently exacerbated by traditional associations with evil shame and embarrassment. Despite the fact that India has over 355 million menstruating women and girls, they many continue to face barriers in having a comfortable and dignified menstrual experience. Menstrual and puberty education is not easily accessible to girls. In India 71% of girls have no awareness about menstruation until their first period which is called menarche. Menstruation is often noticed as “dirty” perpetuating taboos and discussed with hushed voices. Almost 88% of women and girls have inconsistent access to preferred, appropriate sanitation facilities.^[1] Only about 18 percent of Indian women use sanitary pads and 64.4 percent of women aged 15-24 use sanitary napkins, 49.6 percent use cloth, 15 per cent use locally prepared napkins and only 0.3 percent use menstrual cups. Menstrual education is essential for breaking the cycle of harmful stigma that has become deeply embedded in society. Furthermore, it is a need for women to manage their menstrual cycles in a safe and sanitary manner. On any given day, more than 300 million women worldwide menstruate. The lack of knowledge about menstrual products and adequate facilities for managing menstrual hygiene and prevalent menstrual disorders among adolescents are not provided. The disgrace on menstrual subject theme must not be seen as a taboo instead education on menstrual hygiene and menstrual disorders must be provided in order to raise awareness and overcome issues associated with them.^[3]

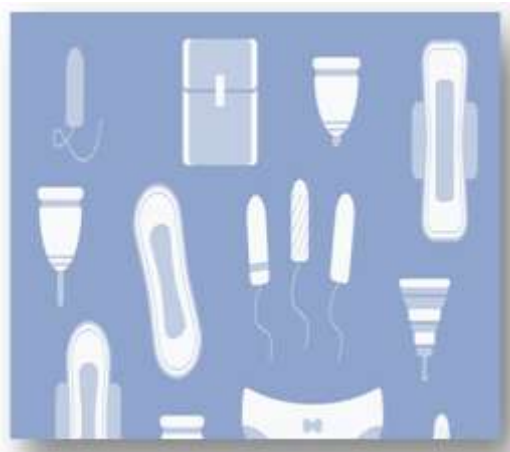


Fig: 1 Sanitary Products.^[18]

I. INTRODUCTION

Menstrual Cycle

The reproductive cycle in the female primates like monkey, apes and human beings is called as menstrual cycle. Menstruation, also known as “periods” or “menses”. Menstruation occurs between the ages of puberty and menopause. The first menstruation begins at puberty in the age of 13 to 15 and is called as “**Menarche**”. In human females menstruation is repeated at an average interval of about 28/29 days and the cycle of events starting from one menstruation till next one is called **Menstrual Cycle**. Ovulation is carried out in between the cycle. The cycle starts with menstrual phase, when menstrual flow occurs and it lasts for 3-5 days depending on the Physiology of the person. The menstrual flow is caused by the breakdown of the endometrium lining of the uterus and blood vessels, only occurs if released ovum is not fertilized.^[4] The lack of knowledge about menstrual products and hygiene leads to the most common menstrual disorders among adolescents, such as excessive uterine bleeding, dysmenorrhea, and premenstrual syndrome (PMS), which affects daily life activity for young women, particularly students. These disorders can have serious consequences, leading to a variety of other menstrual disorders.^[4]

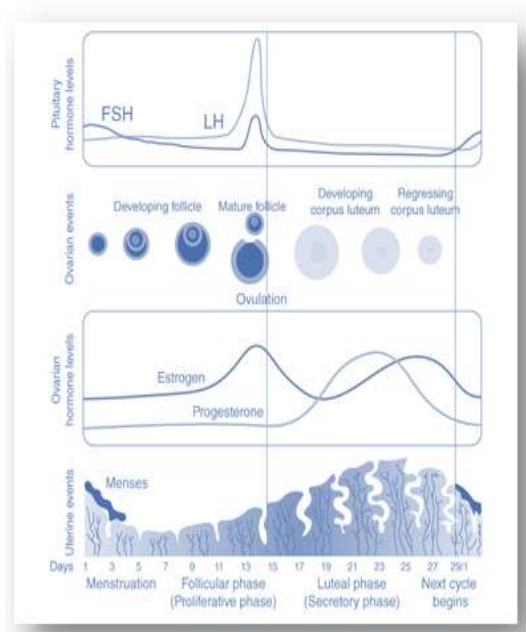


Fig: 2 Menstrual Cycle. ^[15]

Menstrual Disorders

A normal menstrual cycle is a sign of overall good health in women of reproductive age. Abnormalities in the reproductive cycle can be an early indicator of disease/disorder. Maintaining menstrual health is very essential. A menstrual disorder is a condition characterized by physiological and emotional symptoms that occur prior to or during the menstrual cycle. This could be the signs as missed or delayed periods, heavy or sparse bleeding, severe pain, or mood swings. Menstrual disorders have become more prevalent in recent years. Menstrual irregularities can be caused by a variety of factors, including biological, psychological, and environmental elements, modern lifestyle. Menstrual changes can lead to reproductive problems, such as premature ovarian failure, or can be sign of a serious underlying disorder, hypothyroidism. When the menstrual cycle is found to be abnormal, the root cause must be determined and examined well by the concerned authorities.^[5] Below mentioned are the list of menstrual disorders which can be caused by abnormalities in the monthly cycle

Types

1. Premenstrual Syndrome (PMS)
 - Premenstrual Dysphoria Disorder (PMDD)
2. Amenorrhea
 - Primary Amenorrhea
 - Secondary Amenorrhea

3. Dysmenorrhea
 - Primary Dysmenorrhea
 - Secondary dysmenorrhea
4. Menorrhagia
 - Metrorrhagia
 - Menometrorrhaagia
5. Abnormal Uterine Bleeding
 - Dysfunctional Uterine Bleeding
6. Fibroids (Uterine Fibroids)
7. Oligomenorrhea

1. Premenstrual Syndrome (PMS) -

Premenstrual syndrome (PMS) is a collection of behavioral, emotional, and physical symptoms that often appear a week before menstruation in the final week of the luteal phase. Usually, the symptoms don't appear until 13th of the cycle and gradually decrease after four days as bleeding starts. Premenstrual syndrome symptoms can strike women at any point in their reproductive lives, but they typically start in the late 20s to early 40s. After they start, the symptoms usually don't go away until menopause, though they can change from cycle to cycle.^[5] Premenstrual syndrome (PMS) in general term means the moody and bodily changes faced by the girl before or during her periods. It gradually gets worst during the 4 days before a period and goes on decreasing after 2 to 3 days on beginning of the period.^{[6][10]}

a.) Premenstrual Dysphoria Disorder (PMDD)

- Premenstrual dysphoric disorder (PMDD) is a more severe version of premenstrual syndrome (PMS). It could affect women of childbearing age. It is a serious and chronic medical condition that requires attention and treatment. Symptoms can be managed through lifestyle changes and on occasional medications. It has greater psychological symptoms involving more severe mood swings, anxiety, depression, and impaired sleep and appetite. Cramps, constipation and bloating are other signs of PMDD.^{[7][10]}

2. Amenorrhea (absence of bleeding) -

Amenorrhea defined as a lack of bleeding during the monthly cycle. It is classified into two types: primary amenorrhea (menstrual periods have never begun) and secondary amenorrhea (absence of menstrual periods for three consecutive cycles). This is common in people who are underweight or suffer from the

eating disorder. Symptoms include nipple discharge, hair loss, and headache.^{[5][8][10]}

a.) **Primary Amenorrhea-** It occurs when a girl does not start menstruating by the age of 16. Girls under the age of 13 who show no signs of sexual development (breast development and pubic hair) should be evaluated by a doctor. Any girl who hasn't had her period by the age of 15 should be tested for primary amenorrhea.^{[5][8][10]} and should be examined by the respective professionals.

b.) **Secondary Amenorrhea** –Secondary Amenorrhea is when periods are absent for three consecutive months.Previously regular periods stop for at least 3 months.^{[5][10]}

3. **Dysmenorrhea (painful menstrual cramps)** - Dysmenorrhea is characterized by severe cramping during menstruation. The pain starts in the lower abdomen and spreads to the lower back and thighs. Dysmenorrhea is classified as either primary or secondary.^[5]

a.) **Primary Dysmenorrhea-** Menstruation causes cramping pain. The cramps are caused by uterine contractions and are usually more severe during heavy bleeding.^[5]

b.) **Dysmenorrhea secondary** - Menstrual pain that occurs in conjunction with another medical or physical condition, such as endometriosis or uterine fibroids.^[5]



Fig: 3 Painful Period Cramps. ^[17]

4. **Menorrhagia (heavy bleeding)** - - Menorrhagia is the medical term for

abnormally heavy menstrual periods. A variety of factors can contribute to menorrhagia. The average woman loses of about 1 ounce (30 mL) of blood and changes her sanitary products 3 to 5 times per day during a normal menstrual cycle. Menstrual flow is heavier and lasts longer in case of menorrhagia. Menstrual flow soaks more than 5 sanitary products per day or requires product change during the night, and bleeding occurs at regular intervals (during periods), but may last for more than 7 days. Clot formation is fairly common. Menorrhagia is frequently associated with dysmenorrhea because large clots can cause painful cramping.^{[5][9][10]}

a.) **Metrorrhagia-** Bleeding that occurs at irregular intervals and in varying amounts is referred to as breakthrough bleeding. The bleeding happens between periods or is unrelated to them. Spotting or light bleeding between periods is common in girls' just starting menstruation and, in young adult women, sometimes during ovulation.^{[5][9]}

b.) **Menometrorrhagia** - Heavy and prolonged bleeding that occurs at random intervals. Menometrorrhagia is a condition that combines the symptoms of menorrhagia and metrorrhagia. The bleeding can occur during menstruation (as in menorrhagia) or between periods (like metrorrhagia).^{[5][9]}

5. **Abnormal Uterine Bleeding (AUB)** - This includes excessive bleeding, bleeding after sexual activity/intercourse and bleeding more frequently than usual. In most cases, irregular periods are classified as abnormal uterine bleeding. This affects approximately 10 million US women and accounts for the majority of gynecological visits among adolescents. The absence of regular menstrual cycles can cause patient anxiety, social discomfort, and sexual dysfunction. Furthermore, menstrual irregularities can cause anemia and be precursors to other serious medical conditions. As a result, providers must understand the causes, evaluation, and treatment of abnormal bleeding.^[11]

a.) **Dysfunctional Uterine Bleeding (DUB)-** Endometrial bleeding that is prolonged, excessive, irregular, and not caused by an underlying structural or systemic disease is

referred to as DUB. On the other hand, was defined by the European Society of Human Reproduction and Embryology (ESHRE) as excessive (in terms of severity, duration, or frequency) uterine bleeding that was not caused by demonstrable pelvic disease, pregnancy complications, or systemic disease. As a result, according to ESHRE, DUB can be ovulatory or unovulatory.^[11]

6. Fibroids - Uterine fibroids are common growths in the uterus. They frequently appear during the years when you are most likely to become pregnant and give birth. Uterine fibroids are not cancerous, and they almost never become cancerous. They are not linked to an increased risk of other types of uterine cancer. This term refers to uterine tumors that cause prolonged bleeding, severe cramping, frequent urination, and anaemia.^[12] Fibroids are noncancerous growths on the uterine walls. They can cause heavy bleeding and cramping pain during menstruation. They may press against the uterine lining, causing increased bleeding. The uterus may not contract properly, making it unable to stop the bleeding. Fibroids can cause blood vessel growth, which can lead to heavier or irregular periods and spotting between periods.^[9]

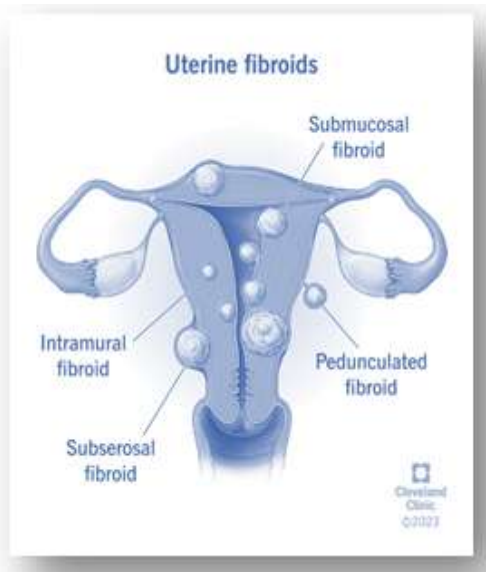


Fig: 4 Uterine Fibroids.^[16]

than 35 days between periods. Hormone imbalances are frequently to blame for oligomenorrhea, but your doctor can make a definitive diagnosis. If your period lasts more than 35 days, you may have oligomenorrhea. It is very common during early adolescence and usually does not indicate a medical problem.^[13] In the first years after menarche and before menopause, light or scanty flow is also common. When girls first start menstruating, they may not have regular cycles for several years. Even healthy adult women's cycles can vary by a few days from month to month. Some women have their periods every 3 weeks, while others have them every 5 weeks. Flow can also vary and be heavy or light. It is possible to skip a period and then have a heavy flow; this is most likely due to missed ovulation.^[9]

General Etiology:

Menstrual disorders have a variety of causes. Hormonal (oestrogen and androgen) imbalances are among them. PCOS, or polycystic ovary syndrome, is characterized by an increase in androgen production, which results in cysts and other problems such as irregular periods and weight gain. Stress and lifestyle factors can also contribute to menstrual problems. Menstrual disorders can be exacerbated by abrupt changes in sleep schedules, exercise, travel or illness, and diet. Young women are experiencing more period-related issues as their reliance on fast food and emphasis on work at the expense of health grows. Birth control pills are known to cause irregular and delayed periods. Fibroids contribute to period pain and excessive bleeding. Endometriosis is a condition in which tissue begins to grow outside of the uterus, causing cramps and abnormal bleeding. Pelvic inflammatory disease (PID) is a bacterial infection caused by sexual contact that can cause irregular periods. Uterine cancer and thyroid disorders can also be reason for the same. Anticoagulants and other medications are also suspected.^{[5][9]} they may include variety of causes, including pregnancy, hormonal imbalances, infections, diseases, trauma, and certain medications.^[14] Some other causes are hormonal imbalance, stress, lifestyle, birth control pills, and polycystic ovarian syndrome.^[5]

7. Oligomenorrhea- Oligomenorrhea is a type of irregular menstrual cycle characterized by infrequent periods. You may regularly go more

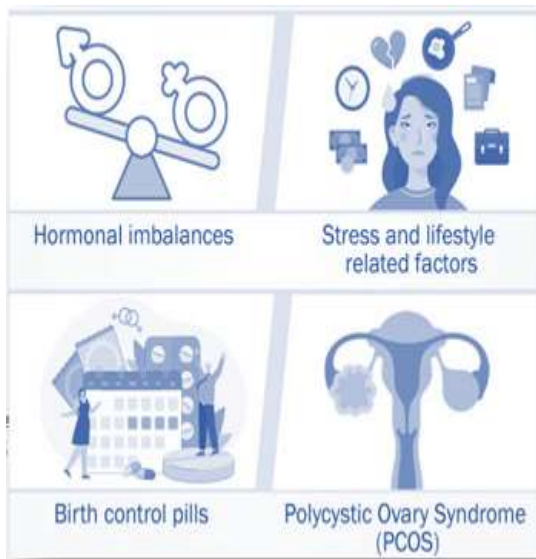


Fig: 5 Causes of Menstrual Disorders. [5]

Risk Elements:

Menstrual disorders are influenced by age. Girls who begin menstruating at the age of 11 or younger are more likely to experience severe pain, longer periods, and longer menstrual cycles. Women approaching menopause (premenopausal) may also experience missed periods. As women approach menopause, they may experience episodes of heavy bleeding.

Other risk factors:

- Stress - Physical and emotional stress can prevent or block the release of luteinizing hormone, resulting in amenorrhea.
- Exercise - Late menarche and amenorrhea or oligomenorrhea have been linked to intensive athletic training.
- Smoking – Smoking can increase the likelihood of having a heavier period.
- Weight - Excessive weight gain or loss can increase the risk of dysmenorrhea (painful periods) and amenorrhea (absent periods).
- Menstrual cycles and flow - Painful cramps are associated with longer and heavier menstrual cycles.
- Pregnancy History – Women who have had a greater number of pregnancies are more likely to experience menorrhagia. Women who have never given birth have a higher risk of dysmenorrhea, whereas women who have given birth for the first time at a young age have a lower risk. [5]

Prevention:

Relaxation and stress-reduction techniques should be practiced. If you are an athlete, you should limit

your long exercise routines. Excessive physical activity can cause irregular menstrual cycles. Taking birth control pills or other forms of contraception must be taken under the supervision of professionals. Eliminating nicotine, alcohol, caffeine, refined sugar, and salt from one’s diet. Exercise at least five times in a week. Maintaining a proper sleep schedule. Keeping a record of symptoms in order to take appropriate preventive measures. [5][9]



Fig: 6 Prevention of Menstrual Disorders. [5]

II. CONCLUSION:

Menstrual irregularities are most common complaint. Its occurrence in different age groups (pubertal years, reproductive age, and primenopausal period) is associated with specific pathologies. It is necessary to conduct a thorough examination in order to diagnose the underlying pathology and conduct appropriate treatment. Treatment options include reassuring patients (mild DUB in pubescent girls) to mutilating surgery (in cases of advanced cancers). If you have menstrual irregularities, such as heavy menstrual periods or a lack of menstrual periods, seek medical attention right away. Menstrual irregularities that are detected and treated early, reduce the risk of serious complications such as infertility and metastatic uterine cancer. Stress was strongly linked to the most common menstrual problems in the target population (dysmenorrhea and premenstrual symptoms). As a result, it is advised that health science students seek early psychological and gynecological counselling in order to avoid future complications. [1][5][7][9]

REFERENCE

1. Alexandra Geertz- Associate Director, Lakshmi Iyer- Senior Consultant, Perri Kasen- Consultant, Francesca Mazzola- Senior Consultant, Kyle Peterson-Managing Director. Menstrual Health in India, Country Landscape Analysis https://menstrualhygieneday.org/wp-content/uploads/2016/04/FSG-Menstrual-Health-Landscape_India.pdf May 2016
2. Asan blogs <https://asancup.in/blogs/blogs/how-many-girls-miss-school-due-to-periodsSep11,2013>
3. National Library of Medicine, National Center For Biotechnology Information [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10434932/#:~:text=Multiple%20state%20governments%20have%20also,%5D%20\(see%20Fig%201\).](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10434932/#:~:text=Multiple%20state%20governments%20have%20also,%5D%20(see%20Fig%201).) Aug 17, 2023
4. SanubiaSaleem, KavitaThareja, K Anita Class 12th NCERT, Biology Chapter-Human Reproduction, 2011
5. Mount Sinai Today Blogs 2019, <https://www.mountsinai.org/health-library/report/menstrual-disordersFig:5,6>
6. NEMOURS TEENS HEALTH, [https://kidshealth.org/en/teens/menstrual-problems.html#:~:text=Premenstrual%20syndrome%20\(PMS\)%20is%20when,days%20after%20the%20period%20begins.](https://kidshealth.org/en/teens/menstrual-problems.html#:~:text=Premenstrual%20syndrome%20(PMS)%20is%20when,days%20after%20the%20period%20begins.) 2018
7. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/premenstrual-dysphoric-disorder-pmdd>
8. <https://books.google.co.in/books?id=BUGOOT-T-a3YC&printsec=frontcover#v=onepage&q&f=false>
9. <https://www.medindia.net/health/conditions/menstrual-disorders.htm>
10. <https://www.slideshare.net/EktaPatel155/disorders-of-menstruation-75943441>
11. <https://www.slideshare.net/InaIraBon1/abnormal-uterine-bleeding-102716508>
12. <https://www.mayoclinic.org/diseases-conditions/uterine-fibroids/symptoms-causes/syc-20354288#:~:text=Uterine%20fibroids%20are%20common%20growths,cancer%20in%20the%20uterus%20either.>
13. <https://my.clevelandclinic.org/health/diseases/22834-oligomenorrhea>
14. <https://www.nichd.nih.gov/health/topics/menstruation/conditioninfo/causes>
15. Fig : 2 https://www.google.com/url?sa=i&url=https%3A%2F%2Fbyjus.com%2Fbiology%2Fmenstrual-cycle%2F&psig=AOvVaw0-hsykjPcLrfu_jGbCH7x0&ust=1709555135084000&source=images&cd=vfe&opi=89978449&ved=0CBMQjRxqFwoTCICrtKaL2IQDFQAAAAAdAAAAABAE
16. Fig:4 <https://www.google.com/url?sa=i&url=https%3A%2F%2Fmy.clevelandclinic.org%2Fhealth%2Fdiseases%2F9130-uterine-fibroids&psig=AOvVaw0czIsbf0psucvyPbUA1GVO&ust=1709555217749000&source=images&cd=vfe&opi=89978449&ved=0CBMQjRxqFwoTCMDB882L2IQDFQAAAAAdAAAAABAE>
17. Fig: 3 https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.shutterstock.com%2Fsearch%2Fcramps-relief%3Fimage_type%3Dvector&psig=AOvVaw1DyMougZv8_5s-ui5BpXND&ust=1709555609905000&source=images&cd=vfe&opi=89978449&ved=0CBMQjRxqFwoTCNDJ94iN2IQDFQAAAAAdAAAAABAK
18. Fig:1 <https://www.google.com/url?sa=i&url=https%3A%2F%2Fedu.rsc.org%2Ffeature%2Fsingle-use-plastic-in-period-products%2F4013167.article&psig=AOvVaw3lhUmzJtOnAjU6pZ5Xywb&ust=1709555892546000&source=images&cd=vfe&opi=89978449&ved=0CBMQjRxqFwoTCKiJ14-O2IQDFQAAAAAdAAAAABAE>