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Case Report

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Primary Dysmenorrhoea

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Effect of Yogasana with Lifestyle Changes in management of Primary Dysmenorrhoea - A Case Study

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Dysmenorrhea undoubtedly one of the most common complain among all gynecological disorders; is a medical condition of pain during menstruation that interferes with daily activities. Menstruation is a normal and natural process that occurs during a woman's reproductive cycle. Pain is an unpleasant feeling that, depending on its degree, location, nature, and length, can have a detrimental impact on the person experiencing it. Menstrual pain is referred to as dysmenorrhea. A substantial number of women claim to suffer mild, moderate, or severe menstrual discomfort. Dysmenorrhea is becoming a major issue because of the sedentary lifestyle and lack of daily physical activity in hectic schedule. Women today face difficulties in their lives, which makes them stressful. This stressful routine results in malnutrition along with physical and psychological burden. This could have an impact on rasa dhatu suffers. Yoga is a holistic approach towards physically and mentally healthy lifestyle. When practiced regularly over a period of time, it can have the desired effects on the body. Therefore, Yogasana in addition to a change in lifestyle can assist women get out of this stressful and unpleasant scenario. Thus, an attempt is made to relieve the women from the condition of primary dysmenorrhoea with lifestyle changes & Yoga. A case study of 3-month has been done to observe the effect of intervention and improvement in primary dysmenorrhea.

Keywords: Yogasana, Primary Dysmenorrhoea, Lifestyle modification

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Introduction

Menstrual disorders are common presentation by late adolescence, 75% of girls expe. some problems associated with menstruation. Dysmenorrhoea is common problem in women of reproductive age. Dysmenorrhoea is painful menstrual cramps of uterine origin. Dysmenorrhoea is defined as painful menses in women with normal pelvic anatomy, usually begins during adolenscence.[1]

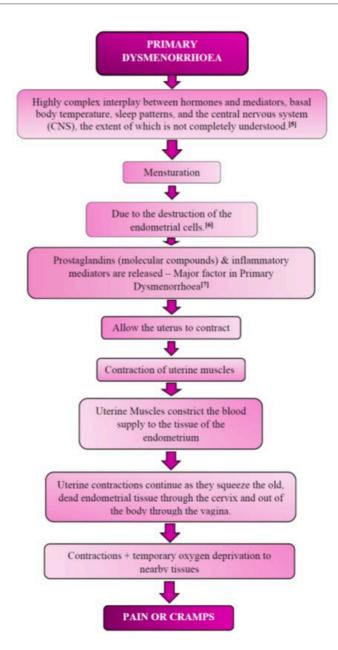
Affected women experience sharp, intermittent spasm of pain usually concentrated in supra pubic area. Pain may radiate to back of legs or lower back. Systemic symptoms of nausea, vomiting, diarrhoea, fatigue, mild fever & headache or light headedness are fairly common. Pain usually develops within 8 – 72 hours of onset of menstrual flow & peaks as flow becomes heaviest during first day or two of cycle.[2] Primary Dysmenorrhoea is the most common gynaecologic disorder among female adolescents, with a prevalence of 60% to 93%. Several Studies have shown that adolescents with primary dysmenorrhoea report that it effects their academic performance, social and sports activities and is a cause for school absenteeism. [3]

Dysmenorrhea is characterized by cramping lower abdominal pain that may radiate to the lower back and upper thighs and is commonly associated with nausea, headache, fatigue, diarrhoea, lethargy, breast tenderness and emotional symptoms.[4]

Mechanism

During a woman's menstrual cycle, the endometrium thickens in preparation for potential pregnancy. After ovulation, if the ovum is not fertilized and there is no pregnancy, the built-up uterine tissue is not needed and thus shed.

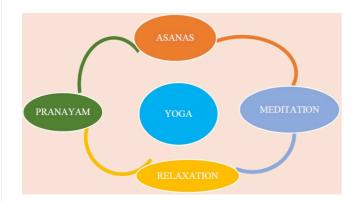
- Elevated prostaglandin levels were found in the endometrial fluid of women with dysmenorrhea and correlated well with the degree of pain.[8]
- Compared with other women, women with primary dysmenorrhea have increased activity of the uterine muscle with increased contractility and increased frequency of contractions.[9]
- A growing body of evidence supports the belief that *Yoga* benefits physical and mental health via down-regulation of the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system.[10]



Yoga

According to studies, *Yoga* intervention improves blood flow at the pelvic level as well as stimulating the release of B endorphins acting as nonspecific analgesics.[11] In addition, another study reported that *Yoga* poses improve spinal flexibility & strengthens muscles in back & *Yoga Nidra* means psychic sleep which may induce deep relaxation and, subsequently decrease oxygen consumption causing pain relief.[12]

Yoga may be a safe and cost-effective intervention for managing menstrual problem. *Yoga* plays an important role in reducing stress and sympathetic activity, increasing parasympathetic activity, improving one's quality of life, and decreasing psychological symptoms levels.[13]



- **Asanas** also help in relieving congestion in these organs, especially uterus, which is one of the reason for Dysmenorrhea pain. Each and every *Asanas* will have a peculiarity to tone up a particular part of a human body. *Yoga Asanas* help in stretching the muscles of pelvic cavity and increase the blood circulation to the pelvic organs and also the spinal twisting *Asanas* help in relieve spinal muscle spasm and help to neutralise *Apana Vaayu* which helps in normal menstrual flow.
- Practice of **Pranavama** help to reduce sympathetic dominance which also is one of the causes of Dysmenorrhea pain. Moreover, practice of Yoga helps in establishing a balance between the endocrine & reproductive systems, thus regulating the hormonal control of the menstrual mechanism. Pranayama like Nadi Shodhana help in the treatment Dysmenorrhea by establishing a balance between Sympathetic & Parasympathetic nervous system.
- Relaxation techniques in Shavasana help in reconditioning of body-mind complex and provide relief.
- Meditation also helps to change the psychological status of the girls with Dysmenorrhea.

Ayurvedic View

According to Ayurvedic classics the blood is accumulated in the uterus and then discharged as "Aartava"[14]

Kashta Artava means **"Kashten Pravartanam".**Kashta means painful, difficult, troublesome whereas Kashten means with great difficulty.**[15]**Pravartanam means Pravartan of Aartava with great difficulty.

According to Ayurveda, pain is due to aggravation of *Vata Dosha* [16] and aggravation of *Vata Dosha* is due to three main factors. These are obstruction in the passage i.e., *Margavrodha*, loss of body tissue. *Dhatukshaya*[17] and *Vata Prakopak Aahara-Vihara*. According to Maharshi Charaka in *Udavartini Yonivyapada*, *Apana Vayu* pushes the *Raja* i.e., blood in upward direction and causes pain, discomfort in menstruation. The women feel comfortable after discharging the menstrual blood. [18,19] This symptom is appeared to be nearer to primary dysmenorrhoea.

Aim and Objectives

Aim

To evaluate the effectiveness of *Yoga* with life style changes in the management of primary dysmenorrhea in a female adolescent.

Objective

- 1. To study the concept of primary dysmenorrhea.
- 2. To study importance of *Asanas* in primary dysmenorrhea.
- 3. To find the effectiveness of Yoga in reducing menstrual cramps with the intervention of Yoga therapy.

Materials and Methods

Recommended Asanas for Primary Dysmenorrhea

- **Time Schedule:** Daily morning at 9 to 10 am.
- Procedure Schedule: (40 min.)

Asana

- 1. Prarthana: for 1 min
- 2. Pranayama (Breathing awareness before Asana): for 2 min
- 3. Time for Ustrasana: 5 min.
- 4. Time for Vajrasana: 5 min.
- 5. Time for *Baddha Konasana Butterfly stretch*: 5 min.
- 6. Time for Matsyasana: 5min.
- 7. Time for *Dhanurasana*: 5 min.
- 8. Time for *Bhujangasana*: 5 min.
- 9. Time for Shavasana: 5 min.
- 10. Dhyana (Meditation): for 2 min

All above *Asanas* procedures should be done in morning hours before breakfast.

Yoga: There is growing association between psychosocial stress and menses associated health problems suggesting that stress may affect menstrual function. *Yoga* balances both the mind and body. The research study suggests that *Yoga* helps to control the stress and pain of dysmenorrhoea. According to research studies *Yoga* has been to be an effective method which reduces pain in dysmenorrhea. [20,21,22] Various types of *Asanas* to reduce pain in dysmenorrhea are as follows:-

1. Ushtrasana

Ushtrasana is also called as camel pose. It is a very deep backward bend performed in a kneeling position. A deeper stretch can be achieved by separating the knees slightly wider at the outside. This Asana stretches the front of the body, ankles, thighs, abdomen, and chest. It stimulates the abdominal organs increases the blood flow to the uterus helping to heal it faster. It also relieves back ache and to relax the body.

2. Vajrasana

Vajrasana is sitting Asana in Yoga. It is kneeling position sitting on the heels. The women sit on the heels with the claves beneath the thighs. There are four finger gaps between the kneecaps and the first toe of both the feet touch each other and sit erect. This Asana alters the flow of blood and nervous impulses in pelvic region and strengthens pelvic muscles, alleviating menstrual disorder.

3. Baddha Konasana

Baddha Konasana is a fixed seated pose. The pose increases blood supply to the abdomen and pelvis. It is beneficial to the urinary tract and tones the kidneys and prostate. During menstruation, it can bring relief from abdominal cramps. The action of bringing the feet together and working to bring the knees to the floor helps to release the inner groins and hips. Maintaining the lift of the body strengthens the spine and makes space for the internal organs.

4. Matsyasana

Matsyasana is also called as fish pose. The women lie on her back and lift the heart by rising up on the elbows and drawing the shoulders back. The neck is lengthened and the crown of the head pointed towards the wall.

It stretches out the muscles of the back, neck, chest and legs giving instant relief from muscle aches and pain associated with menstruation.

5. Dhanurasana

Dhanurasana is also called as bow pose. The women should lie in prone position and grasp the feet to lift the leg and chest to form a bow. Remain in this position for some time and then return to previous position. The Asana stretches the entire front of the body and give extra stretch to ankles, thighs, abdomen, chest, throat and the muscles of the buttocks. It stimulates the organs of the abdomen. This stimulation helps ease cramps and regulate the flow of blood to and from the uterus thus relieving the pain.

6. Bhujangasana

Bhujangasana is a cobra pose. Bhujangasana is a beginner-friendlyback-bendpose thatstrengthens the spine and improves posture. The pose stretches the chest and shoulders, improving flexibility and relieving tension. Regular practice can aid digestion, reduce stress and fatigue, and boost energy levels.

7. Shavasasana

Basically, *Shavasana* relaxes the whole physiological and psychological system of the body. It aims at slowing down the breathing rate to improve the exchange of oxygen and carbon dioxide in the lungs as well *Asanas* to induce mental tranquillity All the tension, stress, problem etc. are flowing out via the exhaled breath. Also, this is a meditation procedure and it calms the mind, reduces stress and emotional tension.

Lifestyle changes:

At present time, the families are undergoing rapid changes due to the increases pace of urbanization and modernization. In IT sectors and basically in all working fields, the women go through job stress, working load, inappropriate dietary habits, sleeping time etc.

In today's sedentary life women have to play multiple role which causes adverse effects on women's mental and physical health including menstrual disorders, insomnia, loss of appetite etc. Therefore, to tackle these challenges regarding to menstrual disorder Ayurvedic classics described "Rajaswala Paricharya". [23,24,25]

The Rajaswala Paricharya helps women adapt well to the physiological changes taking place in the body during the menstruation and thus prevent occurrence of diseases.

Do's

- Exercise regularly
- Ensure sound sleep for at least 6 -8 hours
- Maintain proper hygiene

Don'ts

- Avoid hot, spicy and salty food.
- Avoid fast running, excessive talking and laughing to avoid exertion and vitiation of Vata Dosha and to restore energy of Rajaswala during menstruation.
- Avoid sleeping during day time to prevent vitiation of Kapha and Pitta.
- Avoid coitus during menstrual period as it causes abnormalities in the child impregnated during this period.
- Avoid smoking and alcohol
- Reduce caffeine intake

According to Aacharya Sushruta, if the women fails to follow the *Rajaswala Paricharya*, there are chances of development of congenital anamolies in the childlike blindness, abnormality of vision, deafness, baldness, Insanity, nails deformity, menstrual abnormalities etc.[26]

Diet

- Eat meal made of ghee, Shali rice, milk, barley etc.[27]
- Eat more leafy vege. that includes fibres.[28]
- As research studied shows that ginger is effec.
 in reducing severity of menstrual cramps regularly use ginger in food prepation.[29]
- Eat healthy, fresh and warm food.
- Take fresh fruit like plums, grape apples, pomegranates etc.
- Take supplements like calcium, magnesium, vitamin E, B6, B12.
- Avoid high fat and sugar.

Research studied shows that *Rajaswala Paricharya* helps women to respond healthily to drastic physical & psychic changes during menstrual cycle.

It is also helpful in relieving most of the associated symptoms of menstrual cycle.[30]

Case Report

A 15 year old female came with the compliant of pain before and during the menstrual cycle, who attained her menarche at the age of 13. Abdominal and pelvic examination was done by physician to rule out other pelvic pathology.

- Pain of primary dysmenorrhoea was measured by using VRS[31] before and after Yoga therapy.
- WALIDD[32] Score is also used to diagnose dysmenorrhoea.

The study subject is advised to do Yoga postures (*Asanas*) for 3 months i.e., 90 days (except 5 days of menstruation)

Before the intervention of *Yoga* therapy, the patient was educated about the study in her mother tongue and got consent from the study subject and from her parents.

Exclusive Criteria

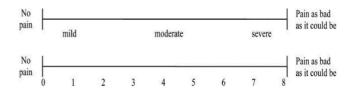
- 1. Married women.
- 2. Patient having secondary dysmenorrhea.
- 3. Patient having other systemic disorders or pelvic pathology.

Withdrawal criteria

The patient can be withdrawn from the trial if-

- 1. Occurrence of serious adverse events.
- 2. The protocol has been violated or a patient has become uncooperative.

VRS: Verbal Rating Scale



WaLIDD Score Variables

Working	Location	Intensity (Wong-Baker)	Days of
ability			pain
0: None	0: None	0: Does not hurt	0: 0
1: Almost	1: 1 site	1: Hurts a little bit	1: 1 - 2
never			
2: Almost	2: 2 - 3	2: Hurts a little more - hurts even	2: 3 - 4
always	sites	more	
3: Always	3: 4 sites	3: Hurts a whole lot - hurts worst	3: ≥ 5

Notes: Score: 0 without dysmenorrhea, 1–4 mild dysmenorrhea, 5–7 moderate dysmenorrhea, 8–12 severe dysmenorrhea. Wong–Baker scale was reclassified to adjust a four-level scale.

Abbreviation: WaLIDD, working ability, location, intensity, days of pain, dysmenorrhea.

Results

Table 1: VRS - Verbal Rating Score

SN	Age/Sex	Pre VRS	Intermittent VRS	Post VRS
1.	15/F	8	5	1

Table 2: WaLIDD Score

SN	WaLIDD Score	Pre WaLIDD	45th Day	Post WaLIDD
	Variable	Score	WaLIDD Score	Score
1.	Working ability	3	2	1
2.	Location	2	2	1
3.	Intensity	2	1	0
4.	Days of pain	2	1	1
5.	Overall Walidd Score	9 (Severe)	6 (Moderate)	3 (Mild)

Table 3: Comparison of VRS & WaLIDD Score

SN	Scores	Pre Score	Intermittent Score	Post Score
		(Day 1)	(Day 45)	(Day 90)
1.	VRS	8	5	1
2.	WaLIDD	9	6	3

- The pre VRS of the study subject on day 1, before the *Yoga* session, was graded as 8. The post VRS of the subject on 45th day, after the *Yoga* session, was graded as 5. The final VRS score was measured after 90 days of *Yoga* therapy was 1. The significant reduction in VRS shows reduction of pain during menstrual cycle.
- The WallID score which is the main diagnostic tool of dysmenorrhoea was also noted before and after intervention of *Yoga* Before the *Yoga* therapy session the WallID score of the subject was 9 which denote severe dysmenorrhoea. After the intervention of *Yoga* therapy on 45th day the WallID score was reduced to 6, which denote moderate Dysmenorrhoea. The final WallID score was measured on 90th day of *Yoga* therapy session and it shows a drastic change in the WallID score, the WallID score was 3 which denote Mild dysmenorrhoea.

■ The Changes in both VRS and WallID scale was noted and both the outcome measures shows the significant reduction in menstrual pain. By this we can clearly state that there is a considerable reduction of menstrual cramps (dysmenorrhoea) after practicing *Yogaasanas* and it also improve the quality of life.

Discussion

Dysmenorrhea is a functional problem and not a disease state that is causing pain, we can truly focus on a holistic approach by looking for aggravating factors in diet, life style, and emotional environment. Yoga encompasses breathing techniques which relaxes the body, which is helpful in relieving stress due menstruation. Performing the various positions in Yoga promotes body flexibility, stretching of pelvic muscles, twisting spinal movements and increased blood circulation to the pelvic organs the muscles become supple helps eliminating pain due to menstrual cramps and other causes. As stated, there is evidence for the benefit of Yoga in reducing pain and symptoms of dysmenorrhea.

Conclusion

Yoga is an ancient science and probably is the first known to mankind to maintain and promote health. As a system of treatment, it has gained worldwide popularity. Yoga experts around the world have always claimed that Yoga can prevent and treat a number of health problems. Numerous scientific studies using the modern scientific techniques carried out in different parts of world have shown that many yogic practices have health promotive and curative abilities. . Yoga improves the wellbeing. Yoga teaches women not to focus too much on the problem, rather it teaches them to learn to accept the inevitable changes in life. Yoga, being a physical breathing exercise, promotes good blood circulation. As a result, menstrual cycle will not be a problem anymore, thus minimizing pain. Yogic practices i.e., Asanas, Pranayama, Relaxation and Meditation have proven very beneficial in the treatment of Dysmenorrhea. Apart from increasing the circulation to the reproductive organs, they increase the flow of vital energy to these organs and establish a balance among hormones regulating menstruation. Yoga can prevent and treat diseases by using the energies inside the body,

Improving circulation & waste disposal thereby cleansing the cells. As practice, *Yoga* aims to harmonize body & mind. Therefore, *Yoga* is just not system of physical exercises but just not system physical exercises but psycho physiological system of therapy. *Yoga* may be safe & cost-effective intervention for managing menstrual problems.

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