

YOGA AS AN ALTERNATIVE MEDICINE FOR DYSMENORRHEA: AN ANALYSIS

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Research Article

YOGA AS AN ALTERNATIVE MEDICINE FOR DYSMENORRHEA: AN ANALYSIS

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Abstract

Women are to pass through the menstrual phase in their life. Quality of life of women is likely to be affected by this phase. As major life deciding activities like studies, job etc. will also come along with this. As per the statistics, In India 34% of females experience dysmenorrhea more frequently. Because of this pain, many girls are absent themselves for their regular activities. Though medications are used for reducing pain, they will have side effects. And thus, the aim of this paper is to study whether yoga can be alternative therapy for dysmenorrhea, by analysing the symptom and causes, the bio-mechanics of the yoga postures and their effects in pain reduction. Four asanas (i) Janu Sirsasana (ii) Pasasana (iii) Ustrasana: Camel Pose (iv) Supta Padangusthasana were considered for the study. Based on the data collected and analysis it shows that practicing yoga asana will reduce the intensity of pain and also the duration.

Keywords: Asana, Dysmenorrhea, Stretching, Biomechanics

1. Introduction

Women's health and quality of life is highly affected by menstruation. Though menstruation is a reproductive system, it influences other factors such as bone health [1], heart health [3] and also it may be the cause for cancer [2], infertility[4]. The cycle length varies from one woman to the other and also, it is varying in nature from one cycle to the other of same women throughout the lifespan [5], also studies [6] concluded that the variation is a norm.

Women all over the world track their cycles based on various symptoms, and factors using different apps [7][8][9][10]. The symptoms such as pain, emotional state, sleep pattern, mental state etc. can also vary from women to women[11]. These factors can be tracked using the apps[11]. Studies [12] categorises symptoms such as cramps, headache, tender breasts, emotional changes.

Many common menstrual disorders are there, and dysmenorrhoea is one among them. It is characterised by pelvic pain [15]. Factors associated with dysmenorrhea or severity of pain in

different countries are reported [16]. Dysmenorrhea affects mood, attitude of individuals, sports activities, also academic performance [17]. Other serious issues like lack of physical activity, heavy menses, depression are also the consequences of Dysmenorrhea [18]. Since it is a public health problem, analysing whether this issue can be mitigated by yoga, an alternative medical solution is the aim of this paper.

Paper is organized as section 2 discusses the background information of Dysmenorrhea, and the medications available. Section 3 discusses related work in this area, Section 4 focuses on steps to do the selected yoga asana and their impact in pain reduction. Section 5 discusses methods and discussion and Section 6 concludes the paper.

2. Background

Dysmenorrhea

Most common symptoms associated with dysmenorrhea were fatigue, headache, backache, stomach cramps, backache, nausea-vomiting and dizziness [19]. In India 34% of females experience dysmenorrhea more frequently [22]. Study in [20], reports that 70.2% of subjects suffer because of dysmenorrhea, and also 23.2% of them are suffering from back pain.

Because of this pain, many girls are absent themselves for their regular activities [21]. Dysmenorrhea is classified into two Primary and secondary. Painful menstrual cramps are called Primary dysmenorrhea. Because the increase in Prostanoids secreted from endometrium is the contributing factor for this [23]. When the prostanoids are in excess, the uterus will be induced to contract dysrhythmically [23]. The degree of pain felt by women having dysmenorrhea is directly proportional to the level of prostanoids [24].

Medications

Though some of the medicines such as Nonsteroidal anti-inflammatory drugs are used to reduce the pain [27], alternatively a study states that doing some aerobic exercise [25], and also yoga [26] are helpful to reduce pain. Some actions or postures will also reduce the release of prostaglandin [28].

Postural changes, and exercises which stimulate the endorphin production will help in reduction of prostaglandins. As less production of prostaglandins results in pain reduction, these kinds of exercises can be beneficial than having medications, which will lead to side effects.

Yoga is one of the alternative therapies which helps in pain reduction and healthy life. Some of the asanas induce stretching muscles. For specific ailments some specific asanas are advisable. Ligamentous contraction in the abdominal region were the cause for the compression of nerve pathway, so, stretching exercises that which will increase the blood flow which in turn increase the uterus metabolism will help in reduction of dysmenorrhea [33]

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Asanas such as (i) Janu Sirsasana a forward bend asana, (ii) Pasasana (iii) Ustrasana: Camel Pose (iv) Supta Padangusthasana are helpful in pain reduction, because they help stretching the muscles involving abdomen.

3. Related Work




Hormonal level characterization and menstrual cycle were studied [13], relationship between menstrual patterns and symptoms [14] were studied, without considering age discrimination. Impact of lifestyle modification to control dysmenorrhea [29]. Usage of Alternative medicine such as acupuncture[30], spinal manipulations [31] for the management of dysmenorrhea studied. Relaxation therapy [32] program for treating dysmenorrhea is reported in literature.

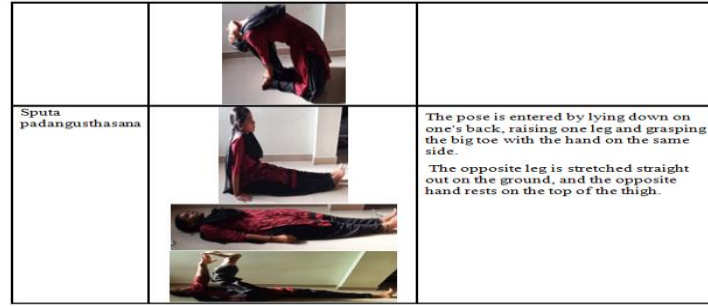
4. Yoga Prescribed for Group A participants

Complementary and Alternative Medicine is “ a group of health care systems, best practices and products for better health maintenance which are part of conventional medicine” – defined by the National Center for Complementary and Alternative Medicine (NCCAM). Yoga one of the best practice which does not have any side effects. As study by Kaufman DM and the team, [34] endorphins are natural pain killers and increasing the production of these will reduce the pain.

Stretching body parts induce production of these endorphins. Yoga asana postures help stretching body parts. Postures which gently open the lower belly, pelvic floor, and womb will help reducing the pain during menstrual cycle.

Figure 2 shows the poses and descriptions about the asanas that help the secretion and stretching of parts for abdominal pain reduction.

Asana	Participant doing the yoga posture	Descriptions
Janu sirsasana		In a seated position, one leg is extended with toes pointing upward, and the other leg is bent with knee pointing away from the straight leg and the sole of the foot in by the groin. The torso turns and folds over the extended leg
pasasana		In this yoga asana, the human body creates a 'noose' when the practitioner wraps their arms around their squatting legs with their hands clasped behind their back, while twisting to one side.
ustrasana		Ustrasana is a deep backward bend from a kneeling position; the completed pose has the hands on the heels. The backs of the feet may be flat on the floor, or the toes may be tucked under for a slightly less strong backbend. The pose is one of the 26 asanas in the Bikram Yoga sequence



5. Methods

Participants

To carry out this study 50 women, having primary dysmenorrhea were selected. The selected participants were not having any gynaecological issues also, they were having regular menstrual cycles.

Though they felt the pain it is explained to them as, dysmenorrhea is a cramping pain felt at the lower part of the abdomen. It will occur at the time of menstruation. To understand the effect of yoga this set is divided into two, Group A and B. Group A is having women who were not undergoing yoga, and in Group B those who will practice the defined asana for a month.

Data about the participants were collected using questionnaire. Details collected are: age, menstrual cycle interval, duration of dysmenorrhea pain, its severity. Pain severity was given a range between 1 to 4.

The range was fixed as follows: 'no pain' value 1, 'mild and tolerable pain' it is assigned a value 2, for 'moderate but seriously disturbing' value assigned was 3, and for 'severe and unbearable' value 4 was assigned. Participants' data before the intervention were given in table 1.

Variables	Participant Practiced Yoga (n = 28)	Participant without Practicing yoga (n = 12)
Age	20.85	20.23
Menarche Age	13.7	13.3
Dysmenorrhea Age	18.3	18.5
Pain Duration	37.5	40.2
Pain Intensity	2.51	2.34

Intervention

Participants in Group B were asked to practice 4 asanas such as (i) Janu Sirsasana a forward bend asana, (ii) Pasasana (iii) Ustrasana: Camel Pose (iv) Supta Padangusthasana.

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Participants were asked to do these four asanas for 20 minutes daily. They were given options to choose their timing among the three (i) morning (ii) afternoon (iii) night with the condition that they should do 2 hours before meals.

Procedure

Participants were grouped into two A – Yoga practitioners, B – non-yoga practitioners.

Collecting data was carried out for three cycles. In the first cycle participants were asked to complete the questionnaire. The intensity of pain, duration etc. were collected. Statistical values about the collected data are presented in table 2.

	Mean	Std
Pain Intensity before intervention	2.34	0.45
Post test after one month	1.35	0.78
Pain duration before intervention (hours)	37.5	20.1
Post test after one month (hours)	21.5	22.1

In the second month of their cycle also the participants were asked to complete the questionnaire. Participant in Group A were asked to start doing yoga from day 1 after the first cycle. Group B were not doing yoga. Data collected from both the group at the end of their cycles. Information thus collected were analysed.

From analysis of post test of it shows that the mean of pain duration of Group A was 35.58 where as Group B it was 40.2

Pain intensity also reduced for participants of Group A. Which is shown in table 3

Conclusion

According to medical terminology, pain is a cause of tension and fear. Generally, before doing yoga asana relaxation poses were suggested and practiced. Based on medical theories stagnation in blood flow will induce pain that is the reason for dysmenorrhea pain also. As this is a long term issue since pregnancy, taking medication should be avoided for possible side effects. But the usual life routine affected by dysmenorrhea should be mitigated. Complementary and alternative medicine is the best alternative. Only four asanas were selected. Other asanas and their influence is the topic of future study.

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