International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: SJIF: 5.995
Available Online at www.journalijcar.org
Volume 7; Issue 1(D); January 2018; Page No. 8931-8934
DOI: http://dx.doi.org/10.24327/ijcar.2018.8934.1458

Research Article

EFFECT OF YOGA ON PRIMARY DYSMENORRHEA IN SECONDARY SCHOOL GIRLS

Yashashree Harish Shriwatri., Priyanka Honkalas* and Ajay Kumar*

DPO'S NETT College of Physiotherapy, Thane (west)

A R T I C L E I N F O

Article History:
Received 17th October, 2017
Received in revised form 21th November, 2017
Accepted 28th December, 2017
Published online 28th January, 2018

Key words:
Primary dysmenorrhea, yoga, secondary school girls.

A B S T R A C T

Objective: To study the effect of yoga on primary dysmenorrhea in secondary school girls using visual analogue scale.
Backgound: Dysmenorrhea or painful menstruation is common problem in women of reproductive age prevalence is 60%-93%. Primary dysmenorrhea is defined as painful menses in women with normal pelvic anatomy usually begins during adolescence. Yoga originated in INDIA thousand years ago. The word 'yoga' comes from Sanskrit root 'yuj' which means union or yoke to join and to direct and concentrate one's attention. Yoga combines physical exercise mental meditation.
Methodology: 80 sample were taken by convenient sampling. Consent form was taken. Each subject was administered with a self-made questionnaire and VAS before and after 3 months. Yoga was performed by the subjects for alternate 3 days per week for 30 minutes. Yoga asana q bhujangasana, bidalasana, matsyasana, dhanurasana. Session was started with 2 minutes warm up exercise each yoga asana was performed for 5 minutes and 2 minutes relaxation was given after each yoga asana.
Result and Conculsion: Data was collected and analysed. Paired t test was used to compare pre- and post- intervention to find out significance. P value (p=0.0001) is statistically significant. There is effect of yoga on primary dysmenorrhea.

INTRODUCTION

Dysmenorrhea or painful menstruation is one of the most important cause of school absenteeism amongst adolescent girls and is also strongly linked to limitations on social academic sports and daily activities.[7] Dysmenorrhea is common problem in women of reproductive age. [7] Dysmenorrhea is the most common gynecological disorder among female adolescents with prevalence of 60% to 93%. [1,7] Primary dysmenorrhea is defined as painful menses in women with normal pelvic anatomy usually begins during adolescence.[7] Systemic symptoms of nausea, vomiting, diarrhea, fatigue, mild fever and headache or light headedness are fairly common.[1] Affected women experience sharp intermittent spasm of pain usually concentrate in the supra pubic area.[1] Pain usually develops with hours of the start of the menstruation and peaks as the flow become heaviest during first day or two of the cycle.[1] Primary dysmenorrhea usually begins within first six months of after menarche, once ovulatory cycles are established.[17] Primary dysmenorrhea is thought to be caused by excessive level of prostaglandins, hormones that make your uterus contract during menstruation and childbirth. Its pain probably results from contractions of your uterus that occur when the blood supply to its lining (endometrium) is reduced. [11]

Corresponding author:* **Yashashree Harish Shriwatri
DPO'S NETT College of Physiotherapy, Thane (west)

Secondary dysmenorrhea can be defined as menstruation associated with pain but in presence of pelvic pathology.[11] Secondary dysmenorrhea may be caused by a number of condition including fibroids that develop within the uterine wall or are attached to it[11] Adenomyosis - the tissue that lines the uterus (called endometrium) begins to grow within its muscular wall a sexually transmitted infection.[11] Endometriosis- fragment of the endometrial lining that are found on other pelvic organs pelvic inflammatory disease.[11] Yoga originated in India a thousand year ago and was introduced in western world in 19th century.[21] In past few decades it has been subject of research in therapeutic measures in mental stress, obesity, diabetes, hypertension.[21] The word 'yoga' comes from a Sanskrit root 'yuj' which means union or yoke to join and to direct and concentrate one's attention.[16] Yoga's potential mental and physical health benefits are reduction in sympathetic nervous system tone, increase in vaginal activity and lowering inflammation all of which could have favorable endocrine and immune consequences.[8]

The physical benefits of yoga are linked to the release of beta endorphins and the shift caused in neurotransmitter levels linked to emotions such as dopamine and serotonin. [4,22] Yoga combines physical exercise, mental meditation and breathing techniques to strengthen the muscle and relieve stress. [9] Yoga can help mind and body adapt with stress, anxiety and depression making the person feel relaxed and clam. [9]

Primary dysmenorrhea is common problem in secondary school girls. When girls get menstruation, they experience pain in their abdomen mostly on first day and in some girl on second day. Studies have shown effect of primary dysmenorrhea on their academic performance social activities, class participation, sports, and absenteeism. Teaching yoga pose may help to reduce pain. There are few studies that show the effect of yoga to reduced severity and duration of primary dysmenorrhea hence the present study has been under taken.

MATERIAL AND METHOD

Study Design

Type of study: Interventional study.
Duration of study: 1 year.
Place of study: Schools of metropolitan city.

Study Design

Sample size: 80
Sample population: Secondary school girls.
Sampling: Convenient.

Selection Criteria

Inclusion criteria

1. Secondary school girls willing to participate in study.
2. Age group 14-16.
3. Secondary school girls having primary dysmenorrhoea.

Exclusion criteria

1. Pelvic pathology: Fibrosis, PCOD, endometriosis, uterine/cervical/ovarian cancer.
2. Hormonal treatment.
3. Who are on medications.
4. Who are on any exercise program.

Material Used

Pen
Paper
Visual analogue scale.
Yoga mat.

Procedur

Prior to starting the study, a written consent form was taken from all the secondary school girls gathered by convenient sampling method in language best understood by them. Each subject was interviewed for her demographic data with the help of self-made questionnaire. Visual analogue scale (VAS) scale was administered to those subjects having dysmenorrhea; scoring of the same was explained to each subject before filling up the scale. Visual analogue scale was taken before and after completing 3 months of yoga intervention. Yoga was performed by subject for alternate three days per week for three months. One-day session was of 30 minutes.

The yoga asana done by the subject were cobra pose (bhujangasana), cat pose (bidalasana), fish pose (matsyasana) bow pose (dhanurasan).

Division of yoga: 2 minutes warm up exercise
5 minutes Bhujangasana
2 minutes' break (relaxation)
5 minutes Bidalasana
2 minutes' break (relaxation)
5 minutes Matsyasana
2 minutes' break (relaxation)
5 minutes Dhanurasana
2 minutes' relaxation

Bhujangasana: Lie down with legs tighter and your hands palms down under your shoulders. Rest your feet forehead on the floor. Inhaling bring your head up breathing first your nose, then your chin against the floor. Now lift your hands and use your back muscles to raise your chest as high as possible. Hold for 30seconds exhaling slowly return to position. This is repeated for 5 minutes.

Benefits

- Stretches muscle of shoulder, chest, abdominals.
- Decreases stiffness of lower back.
- Strengthens the arms and shoulders.
- Increase flexibility.
- Improves menstrual irregularities.
- Firms and one's buttock.
- Stimulates the organ in the abdomen like kidney.
- Relieves stress and fatigue.
- Opens the chest and helps to clear the passages of heart and lungs.
- Improves circulation of blood and oxygen.
- Improves digestion.
- Strengthens the spine.

Bidalasana: Start on your hands and knees. Position your hands directly beneath your shoulders and your knee directly beneath the hips. Make your back horizontally and flat. Your spine will be at full extension with both the front and back sides equally long. When you are ready to begin breathe in deeply. Do this gently pulling the abdominal muscle backwards towards the spine and gently contracting the buttocks. Press firmly downward with your hands to stay lifted out of the shoulders and press the middle of your back toward ceiling, rounding your spine upward. Hold for 30 secs and come back to starting position.

Benefits

- Improves posture and balance.
- Strengthens and stretches the spine and neck.
- Increases co-ordination.
- Massages and stimulates organs in the belly, like kidneys and adrenal glands.
- Creates emotional balance.
- Relives stress and clams the mind.

Matsyasana: Lie down on your back with your legs straight and your feet together. Place our hands palms down underneath your thighs. Pressing down your elbow inhale and arch your back. Drop your head back so that the top of your head is on floor, but your weight should rest on elbows. Exhale and come back to the position. Hold the position for 30 secs and repeat it for 5 min.

Benefits

- Stretches your deep hip flexors and intercostals.
- Relives tension in your neck, throat and shoulders.
- Stretches and tones the front of neck and your abdominals.
- Stretches and stimulates the organ of your belly and throat.
- Strengthens your upper back and the back of your neck.
- Improves posture.

Dhanurasana: Lie on stomach with feet hip wide apart and your arms by the side of your body. Fold your knees take your hands backward and hold your ankles

Breathing in lift your chest off the ground and pull your leg up and back. Keep the pose stable while paying attention to your breath. Hold the position for 30 secs and repeat it.

Benefits

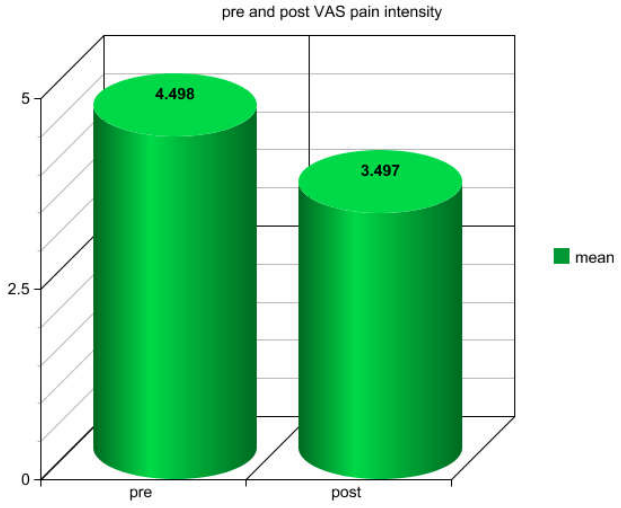
- Strengthens the back and abdominal muscle.
- Opens the chest, neck and shoulders.
- Tones the leg and arm muscle.
- Adds greater flexibility to the back.
- Good stress and fatigue buster.
- Relieves menstrual discomfort.

RESULTS

In the present study 80 secondary school girls with primary dysmenorrhea were selected. Data was collected and analysed. Paired 't' test was used to compare pre- and post- intervention to find out the significance. P value <0.05 is considered as statistically significant (p=0.0001).

GRAPH

Mean of pre-and post-pain intervention



	Pre	Post
Mean	4.498	3.497
SD	2.044	1.950

Interference: The above data states that there is significant difference in pre-and post- value of visual analogue scale.

DISCUSSION

Our study showed significant effect of yoga on primary dysmenorrhea in secondary school girls, analysis was done by using paired t test to compare the pre- and post- VAS which is statistically significant (p=0.0001).

We observed that these yoga asanas are effective in reducing primary dysmenorrhea. About 70% reported pain relief, after 3 months of yoga intervention. These yoga asanas have three types of effect on the body i.e. increase flexibility, induce relaxation and balance action on the sympathetic and parasympathetic nervous system. [12]

These yoga asanas strengthen back muscle and massage the organs lies in the pelvic. By massaging it increases blood supply to the organs. With increase in blood supply to organs oxygen supply is also increased and give relief from muscle

hypoxia which is the one common factor responsible for cramps in primary dysmenorrhea. [12]

Studies have shown that the prevalence of dysmenorrhea is high 60-93% in adolescent girls. (Bani Karim C *et al*. 2000). [6] Serum homocysteine levels are increased in women with primary dysmenorrhea when compared to healthy controls. Yoga intervention was associated with reduction in severity of dysmenorrhea and may be effective in lowering the serum homocysteine. (Chien LW *et al*. 2012). [10]

Dysmenorrhea is a common gynaecological condition. Simple analgesic and non-steroidal are effective in up-to 70%. For women seeking alternative therapies heat and vitamin E may be effective. Exercise intervention improves blood flow at pelvic level as well as stimulating the release of B endorphin acting as non-specific analgesic. (Proctor ML *et al*. 2006). [18]

CONCLUSION

The study concluded that there is effect of yoga on primary dysmenorrhea.

Aknowledgment

It's my great pleasure and privilege to express my deep-felt gratitude to our respected Principal Sir Dr. Ajay Kumar and Guide-Dr. Priyanka Honkalas who immensely helped me and rendered their advice, precious time, constant encouragement, knowledge and relevant information regarding my study and whose suggestions and guidance has enlightened me on this subject.

References

1. Alvin PE, Lit IF. Status of the aetiology and management of dysmenorrhoea in adolescence. *Paediatric*. 1982 oct; 70(4):516-25.
2. Alaettin Unsal, Unal Ayranci, Mustafa Tozun, Gul Arslan, and Elif Calik Prevalence of dysmenorrhoea and its effect on quality of life among a group of female university students 2010 May; 115(2): 138-145.
3. A study on the effect of Yoga and Naturopathy on Dysmenorrhea Dr. Sadhana Dauneria & Dr. Jyoti Keswani 2014:2278-5159.
4. Bucksworth, J; Dishman, R, 2003. "Human kinetics". Exercise psychology.
5. Ben-Menachem M: treatment of dysmenorrhoea: a relaxation therapy program. *Int gynaecol obstet* 1980; 17:340.
6. Banikarim C, Chacko MR, Kelder SH Prevalence and impact of dysmenorrhoea on Hispanic female adolescent. *Arch Pediatr Adolesc Med* 2000; 154:1226.
7. Campbell MA, McGrath PJ. Use of medication by adolescents for the management of menstrual discomfort. *Arch Paediatric Adolescent Med*. 1997;151(9):905-13.
8. Cakir M, Mungan I, Karakas T, Girisken I Okent A. Menstrual pattern and common menstrual disorders among university students in turkey. *Paediatric Int*. 2007;49(6):938-42.
9. Carlson KJ, Eisenstat SA, Ziporyn TD: The Harvard Guide to Women's Health. Cambridge Harvard University Press, 1996.
10. Chien LW, Chang HC, Liu CF (2013) Effect of yoga on serum homocysteine and nitric oxide levels in adolescent women with and without dysmenorrhoea. *J Altern Complement Med* 19:20-23.
11. D C Dutta 6th edition textbook of gynaecology: dysmenorrhoea and other disorders of menstrual cycles page 171-174.
12. Ekta, Sharma k Kamlesh, Mahapatra Dass Koushik Badhuri Tapas, Role of yoga in primary dysmenorrhoea *J pharm sci Innova* 2014;3(5):410-412.
13. Effect of fennel on pain intensity in dysmenorrhoea: Omidvar S, Esmailzadeh S, Baradaran M, Basirat Z. A Placebo-controlled trial. *Ayu* 2012;33(2):311-313.
14. K Krishna Sharma, Thirumaleshwara Prasada H, Udayakumara K, and Logeshwari K. A study on the effect of Yoga therapy on menstrual disorders regarding Hormonal discrepancy. *Asian Journal of Complementary and Alternative Medicine* 02 (05); 2014. 24-28.
15. Lee LK, Chen PCY, Lee KK, Kaur J. Menstruation among adolescent girls in Malaysia: a cross sectional school survey. *Singapore Med J* 2006;47(10):874.
16. Laster J. The heart of Patanjali. *Yoga J* 1997;137:134-44.
17. Maxson WS, Rosenwaks 7: dysmenorrhoea and premenstrual syndrome. In: Copeland, editor. Textbook of gynaecology. Philadelphia, WB Saunders, 2000, pp 513-514.
18. Proctor ML, Farquhar CM (2006) Diagnosis and management of dysmenorrhoea. *BMJ* 332:1134-1138.
19. Solomon Hailemeskel1 Asrate Demissie Nigussie Assefa Primary dysmenorrhoea magnitude, associated risk factors, and its effect on academic performance: evidence from female university students in Ethiopia 182.57.164.149 on 10-Nov-2016.
20. Shah, S., Makwana, K., Shah, P. (2015). Menstrual characteristics and prevalence of dysmenorrhoea among female physiotherapy students. *International Journal of Medicine & Health Research*, 1(1). 18.
21. Taneja DK, Yoga and health. *Indian J Community Med* 2014; 39:68-72.
22. Williams KA, Abildso C, Steinberg L, Doyle EJ, Epstein B, Smith D, Hobbs G, Gross R, Kelly G, Cooper L. Evaluation of the effectiveness and efficacy of iyengar yoga therapy on chronic low back pain. *Spine* 2009; 34:2066-2076.

How to cite this article:

Yashashree Harish Shriwatri *et al* (2018) 'Effect of Yoga on Primary Dysmenorrhea in Secondary School Girls', *International Journal of Current Advanced Research,* 07(1), pp. 8931-8934. DOI: http://dx.doi.org/10.24327/ijcar.2018.8934.1458

****