

Holistic Approach to Uterine Fibroid Management (Resistance Training, Aerobic Exercises and yoga in Perimenopausal women)

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ABSTRACT

Background of Study -The study investigate impact of physio yoga (aerobic exercises and resistance training) in perimenopausal women having uterine fibroid. Perimenopausal is transition periods before menopause when women body begin to change in preparation for the end of reproductive years. Uterine fibroid are the benign tumors with the symptoms of pelvic pain, irregular menstrual cycles, leg cramps, heavy bleeding. These symptoms affecting the physical and mental health of women. Exercises and yoga reduces the symptoms and enhance the quality of life of women. And ease the transition of women from perimenopause to menopause.

Method- An experimental study was performed on 20 perimenopause women in the age group of 40 to 50 years, they were taken by convenience sampling method and random allocation. The study was designed to span 3 months featuring 7 days of regular physio yoga sessions lasting for 50-60 minutes. Primary outcome measure are pelvic pain, fibroid size, menstrual irregularity, secondary outcome measures is (MENQOL) quality of life scales is used to pre and post treatment effect.

Result: The data reveals changes in all parameter BMI showed substantial reduction with mean score from 27.342.01to 23.802.12 (t 9.444,p& t;0.001), pelvic pain marked improved 6.151.42 to 2.251.02 (t19.126,p,0.001) quality of life score improved 71.009.30 to 63.3010.28 (t8.751, p &t;0.001) with improvement in menstrual cycle.

Conclusion: Physio-yoga offers a holistic approach to managing uterine fibroids by enhancing physical fitness, reducing stress, psychological stress, and improving QoL. Its integration into lifestyle interventions could serve as an effective adjunct therapy for fibroid management.

Key words: Perimenopause,Uterine Fibroid ,Resistance Training, Aerobic Exercises and yoga.

1. INTRODUCTION-

Perimenopause transition to menopause, when ovaries gradually begin to make less estrogen.[1] It lasts until menopause, the point when ovaries stop releasing eggs. In the last 1-2Year of perimenopause this

drops in estrogen speeds up. It usually starts 8-10 years before-menopause. It usually happens in mid-40s. The average length of perimenopause is 4 years, only a few months. Perimenopause ends when 12 months without having a period. Hot flashes, night sweat, Sleeplessness, anxiety irritation, breast tenderness, irregular periods, dysmenorrhea with leg cramps are Common problem in perimenopause. Women estrogen levels in your body rise and drop irregularly, Sort of like a roller coaster. [2] These sudden hormone changes can trigger uterine fibroids to develop. Fibroids are abnormal growths that develop in or on the uterus sometimes these tumors become quite large and cause severe abdominal pain and heavy periods. Symptoms is highest during perimenopause. UFs are present in perimenopause they typically manifest as abnormal uterine bleeding (irregular Menstrual cycle), lower abdominal pain, leg cramps. [3,4]

Types of fibroids -there are five types 1. Intramural fibroids 2. Subserosal fibroids: 3. Pedunculated fibroids 4. Submucosal fibroids 5. Cervical fibroids [5] Regular physical activity will help to balance hormones, improve circulation and decrease stress levels, reduce the anxiety issues and help in weight management, all these factors can alleviate fibroid symptoms and improve overall health. , exercising will increase energy levels, improve mood, improve the estrogen and progesterone level. [6]

Aerobic exercises improve the blood flow towards the all the parts of body including pelvic area. Improved blood circulation can reduce menstrual cramps and pelvic pain by delivering oxygen and nutrients to tissues while also helping to remove metabolic waste products and ease the symptoms [7]

Yoga relieves the stress due to induced endorphin in the body, exercise and yoga work strongly over the emotional pain caused by Fibroids. Yogic exercises can generally improve health by promoting cardiovascular fitness, developing muscular tone and flexibility, and enhancing the functioning of the immune system. Strong immune system help in healing of fibroids, and ease the symptoms and enhance the quality of sleep this makes it An important part of your overall fibroid management strategy. [8][9] Quality of life (QOL) measures Are important because they represent a holistic approach to assess patient well-being and Satisfaction. [10]

Resistance training by theraband ,body weight exercises can support uterine fibroid management by promoting overall health, hormonal balance, and weight management, which are linked to fibroid prevention and symptom reduction. [11]

The Effect of Aerobic and Resistance Training and Combined Exercise help in uterine fibroid by regulate estrogen and progesterone that reduce size of growth and development of fibroid. Endorphin release from physical activity can reduce pain and inflammation associated with fibroids. [12] Resistance training can support uterine fibroid management by promoting overall health, hormonal balance, and weight management, which are linked to fibroid prevention and symptom reduction. [13]

Yoga is very effective in the reduction of stress and anxiety. [13] Proposed biological mechanisms through which yoga may reduce stress include the autonomic nervous system. Autonomic nervous system. Both sympathetic and parasympathetic nervous systems are often posited as the mechanism through which yoga reduces stress. [15] Yoga may cause activation of prefrontal cortex and enhanced glutamate transmission in the arcuate nucleus of the medial hypothalamus resulting in the release of beta-endorphin which, in turn, may cause a reduction of cortisol and that way help in reduction of stress. [16]

Reduction in the QOL in women with fibroids adversely impacts their mental health. Uterine fibroids are reported to be among the greatest psychological stress for women, adversely affecting emotional and

mental health determined by QOL measures, surveys, and semi structured Interviews [17] MENQOL is one of best scale to measure the quality of life in perimenopause [18]

2. METHEDOLOGY

Research design: Experimental (intervention)

Sampling method: Random

Study duration: Total study duration: 6 months (24 weeks)

Treatment duration: 12 weeks

Sample size: 20

Inclusion Criteria-

1. Women aged 40-50 years.
2. Willing to participate in study.
3. Diagnosed with Uterine Fibroids that are less than 5cm. (confirmed by USG)
4. Irregular menstrual Cycle.
5. Pelvic pain less than 7on VAS.

Exclusion Criteria –

1. Fibroids larger than 5cm
2. History of recent gynecological surgeries.
3. Present with malignant Gynecological condition.
4. Use of Hormonal therapy for Uterine Fibroids.
5. Cardiovascular Disease.
6. Diagnosed with severe mental health.

PRIMARY OUTCOME

1. Fibroid Size - Changes in fibroid size were measured in mm using USG for fibroid size and numbers. Fibroids are measured at baseline and at the end of the study.
2. Menstrual Irregularity - Changes in menstrual pattern are assessed by cycle length (shortened or lengthened) and duration of bleeding (number of bleeding days)
3. Pelvic Pain - Reduction in pain scale measures at baseline and the end of the study.

SECONDARY OUTCOME

1. Quality of life of perimenopause women measured by MENQOL.

PROCEDURE-

This study was carried out at CR Gardi Hospital by the departments of Gynecology and Physiotherapy as a 12-week intervention aimed at assessing the effects of physio yoga on uterine fibroids in overweight women during perimenopause. All participants were chosen randomly based on the Inclusion Criteria. Informed consent was obtained from every participant. The study was designed to span 3 months, featuring 7days (each week) of regular Physio-Yoga sessions lasting 45-60 minutes. During the initial day of their visit, the physiotherapist offered individualized guidance, illustrating every technique for all exercises and guaranteeing patients safety and self-assurance in practicing them at home. Pamphlets featuring images of physio yoga were handed out to all patients during each monthly appointment for a duration of up to 3 months. During the study, patients were evaluated for their menstrual cycles, pelvic pain, fibroid size measurements, and weight both at the beginning and conclusion of the study.

TABLE : Treatment protocols

TIME DAY	INITIAL PERIOD (5 Minute)	MID -TIME PERIOD (40 Minutes)	FINAL PERIOD (5 Minute)
Monday	Pranayam (Anulom Vilom)	30 minutes (Asanas) Asanas(Bandha Konasana,Bound Angle frorwand bend ,Paschimottanasna,Vakrasana,Vajrasana, Cat cow pose) 10 Minutes (Relaxation) Anulom Vilom, Shavasana	Chanting Mantra
Tuesday	Deep Breathing (Diaphragmatic ,pursed lip breathing)	25 mintues (Resistance Exercise) Squats ,Pull-ups, Push- ups,Dumbbells,Theraband ex.,Weighted Household 10 minuets (Aerobic exercises) Brisk walking 5 minutes (Cool Down) Deep breathing exercises focus tech.	Chanting Mantra
Wednes day	Pranayam (Anulom Vilom)	30 minutes (Asanas) Asanas(Bandha Konasana,Bound Angle frorwand bend ,Paschimottanasna,Vakrasana,Vajrasana, Cat	Chanting Mantra

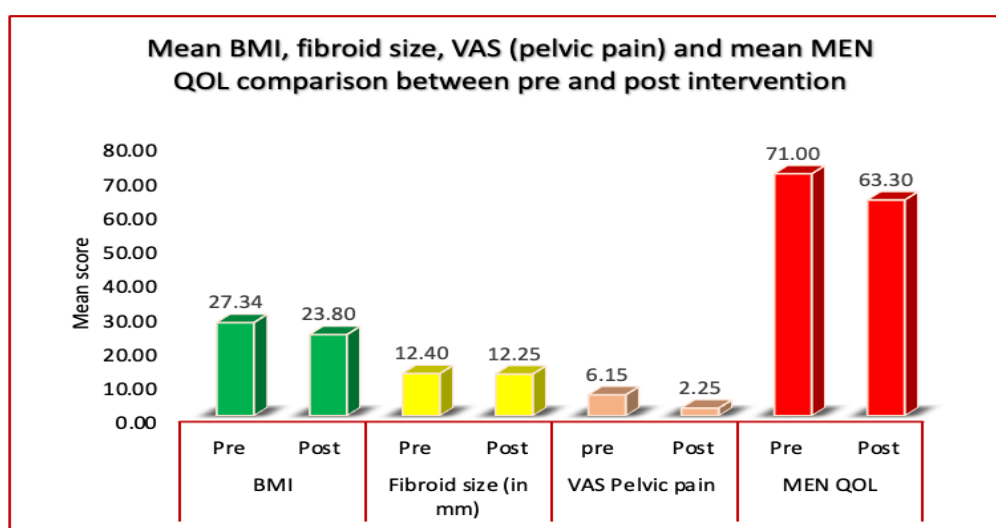
		cow pose) 10 Minutes (Relaxation) Anulom Vilom, Shavasana	
Thursday	Deep Breathing (Diaphragmatic ,pursed lip breathing)	25 mintues (Resistance Exercise) Squats ,Pull-ups, Push- ups,Dumbbells,Theraband ex.,Weighted Household 10 minuets (Aerobic exercises) Brisk walking 5 minutes (Cool Down) Deep breathing exercises focus tech.	Chanting Mantra
Friday	Pranayam (Anulom Vilom)	30 minutes (Asanas) Asanas(Bandha Konasana,Bound Angle frorwand bend ,Paschimottanasna,Vakrasana,Vajrasana, Cat cow pose 10 Minutes (Relaxation) Anulom Vilom, Shavasana	Chanting Mantra
Saturday	Deep Breathing (Diaphragmatic ,pursed lip breathing)	25 mintues (Resistance Exercise) Squats ,Pull-ups, Push- ups,Dumbbells,Theraband ex.,Weighted Household 10 minuets (Aerobic exercises) Brisk walking 5 minutes (Cool Down) Deep breathing exercises focus tech.	Chanting Mantra

3. RESULTS & STATISCS

The data reveals changes in all parameter BMI showed substantial reduction with mean score from 27.342.01to 23.802.12 (t 9.444,p<0.001), pelvic pain marked improved 6.151.42 to 2.251.02 (t19.126,p,0.001) quality of life score improved 71.009.30 to 63.3010.28 (t8.751, p <0.001) with improvement in menstrual cycle.

		N	Mean score	SD	t	p
BMI	Pre	20	27.34	2.01	9.444	0.000
	Post	20	23.80	2.12		
Fibroid size (in mm)	Pre	20	12.40	4.88	1.831	0.083
	Post	20	12.25	4.75		
VAS Pelvic pain	pre	20	6.15	1.42	19.126	0.000
	Post	20	2.25	1.02		
MEN QOL	Pre	20	71.00	9.30	8.751	0.000
	Post	20	63.30	10.28		

TABLE :2 RESULTS & STATISCS OF OUTCOME MEASURES



GRAPH NO :1 Changes in mean score between pre post intervention

4. DISCUSSION-

The purpose of the study was to find out the effects physio yoga (aerobic exercises and resistance training) in perimenopausal women having uterine fibroid. In uterine fibroids pelvic pain, irregular menstrual cycles, leg cramps, heavy ,anxiety ,depression .These symptoms affecting the physical and mental health of women. Physio-yoga offers a managing uterine fibroids by enhancing physical fitness, reducing stress, psychological stress, and improving QoL.

Regular physical activity will help to balance hormones, improve circulation and decrease stress levels, reduce the anxiety issues and help in weight management, all these factors can alleviate fibroid symptoms and improve overall health. , exercising will increase energy levels, improve mood, improve the estrogen and progesterone level.

The present study aimed assess the impact of exercises and yoga on uterine fibroids in overweight perimenopausal women, specific outcomes focusing on uterine fibroids size, BMI, pelvic pain, menstrual cycle regularity. this study provides the role of non-invasive ,life style modification-based interventions in managing the symptoms in this particular Population There were minimal changes in the size of uterine fibroids, which suggest exercises and yoga minimally shrink the size of fibroids by directly acting over the estrogen hormone, physio yoga are effective in managing the symptoms.

In pelvic pain physio yoga improves circulation ,enhance muscle relaxation in pelvic region . Endorphin release from physical activity can reduce pain and inflammation associated with fibroids. This is the best non pharmacological approaches in improving the quality of life for women with fibroids. This study reported an improvement in menstrual cycle; this is due to endocrine modulating effects of yoga and exercise and it also regulates the hypothalamic -pituitary-ovarian axis.

Chronic stress can contribute to hormonal imbalances. Incorporating activities like yoga and deep breathing exercises can reduce cortisol levels and help manage fibroid-related stress. Physical activity releases endorphins, dopamine natural chemicals that improve mood by binding to opioid receptors in the brain and nervous system, blocking pain signals, reducing stress, and creating feelings of euphoria and well-being.

Overweight women are known risk factors for the progression of uterine fibroids. Maintaining a healthy weight through exercise and diet is crucial because excess fat cells can produce more estrogen, potentially promoting fibroid growth. And this excessive estrogen production enhances the symptoms; physio yoga contribute to hormonal balance and weight reduction also providing a favorable uterine environment. This is a transformative phase in women with 39s life with the power of yoga and exercises women empowering herself with confidence and grace.

5. CONCLUSION -

Physio-yoga offers a holistic approach to managing uterine fibroids by enhancing physical fitness, reducing stress, psychological stress, and improving QoL. Its integration into lifestyle interventions could serve as an effective adjunct therapy for fibroid management.

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