



THE EFFECT OF PELVIC FLOOR MUSCLE TRAINING IN POLY CYSTIC OVARY SYNDROME

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ABSTRACT

Background: Polycystic ovary syndrome is an endocrine disorder in reproductive females; according to world health organization PCOS is highly variable in the population, it ranges from 2.6 to 26 % worldwide. **Objective:** To find out effect of pelvic floor muscle training in PCOS/PCOD. **Methods:** The study was conducted through online mode. 30 subjects with PCOS were taken according to Rotterdam Criteria for PCOS. Subjects who were included in the study were general urban population in the age group of 18 to 35 years females diagnosed with PCOS. Subjects with lumbar dysfunction, previous history of pelvic dysfunction, any sexual trauma and congenital deformity were excluded in the study. Dependent variable of the study was menstrual discomfort and independent variable was Rotterdam criteria. **Results:** 80% of participants suffering from abdominal cramps, 70% of participants with headache and migraine and 80% of participants suffering from back pain associated with PolyCystic Ovary Syndrome found relief after pelvic floor muscle training exercises. **Conclusion:** This study concluded that the pelvic floor training is very important segment of women life in all age groups and this is beneficial in PCOS also but these groups of exercise regime can also be helpful in treating back, neck pain, urine incontinence and other pelvic disorder in other age group.

KEYWORDS : PCOS, PELVIC DYSFUCTION, PELVIC FLOOR, MUSCLE TRAINING.

INTRODUCTION

Polycystic ovary syndrome is an endocrine disorder in reproductive females; according to world health organization PCOS is highly variable in the population, it ranges from 2.6 to 26 % worldwide. According to Disha Shetty et al. prevalence rate of PCOS in young female population is between 7-22.5% and varying with region, country and continents. PCOS has been associated with number of sign and symptom assessed by the clinician or the female, which is the major concern of every female in reproductive age. PCOS has many dimensions of pathology like our life style, our dietary habits and many more. PCOS is presented by many symptoms like irregular period, amenorrhea, acne, hirsutism, back pain migraine, headaches, depression, obesity, infertility social withdrawal, mood swings, anxiety, heavy bleeding with severe abdominal cramp and inability to conceive without medical assistance. PCOS is associated with many complications includes infertility, cardiovascular disorder, ovarian cancer, depression anxiety and obstetrician disorder [1, 2,3].

Dr. Selma Feldman et al discussed about the pathophysiology of the PCOS. According to them female hypothalamic-pituitary-ovarian (HPO) is a meticulously integrated close packed network for reproductive competence. This HPO axis response to internal signals (hormonal and neuronal) and external factors (i.e., environment influence). Recent clinical, experimental and genetic data emphasize neuroendocrine involvement in pathophysiology of PCOS. PCOS is characterized by excessive ovarian and adrenal androgen secretions. Intrinsic ovarian factors such as altered steroidogenesis and external factors to the ovary such as hyperinsulinemia contribute to excessive ovarian androgen production. Distorted interaction among endocrine, paracrine and autocrine factors are responsible for follicular maturation and may contribute to ovarian dysregulation in PCOS [4].

Miss Dipamoni-Morang et al.(2019)concluded the history of PCOS development [5]. In 2003 The Rotterdam ESHRE/ASRM –sponsored PCOS workshop group fertility and sterility and concluded criteria of PCOS diagnosis: 1-Oligovulation or anovulation 2-Clinical and biochemical indications of hyperandrogenism 3- Polycystic ovary in Ultrasound imaging. Then in 2006 The Thessaloniki ESHRE/ASRM-sponsored PCOS workshop agreed on androgen excess either by clinical symptoms or by hyperandrogenism and last meeting or

workshop of the society held in 2012 in Amsterdam and concluded two out of three characteristics will be criteria for diagnosis: 1-Irregularity of menstrual cycle 2-Hyper androgenia 3-The ultrasound imaging with more than 12 immature follicles. Pelvic floor muscle group are responsible for the handling pelvic organs in position for their optimum performance. Pelvic floor is a dome-shaped muscular sheet separating the pelvic cavity from above and the perineal region below. This cavity encloses the pelvic viscera - bladder, intestines, and uterus [6,7,].

According to the NAAZ, an Iranian researcher from Tehran University, found that pelvic floor dysfunction is another and important cause of PCOD/PCOS in this modern-day life style [8].

The Pelvic floor muscle help in holding of female or male organ, help in sexual activity and delivering of child, so after every deliver of child it gets loosen up and give many other symptoms like- urine incontinence, reduced sexual desire and many more. Pelvic floor muscles have two group of muscle: 1- piriformis and obturator internus 2-Levator Ani and coccygeus. Levatorani has further division like-Pubococcygeus, iliococcygeus and ischiococcygeus. Some other muscle like gluteus maximus, Hip adductors muscle, lowers abdominal muscle play important role for pelvic floor performance and other daily routine activity [9].

According to Herney et al. the development of Kegel exercise in 1948 to many physiotherapy interventions till 2018 were tried for the treatment of the PCOD in department. In the course of development many interventions like Kegel exercise, vaginal cones, pelvic floor training, electrical stimulation, behavioural therapy, biofeedback therapy and abdominal training were tried but, in the end, a particular protocol for PCOS population not available. [10, 11, 2].

Our aim of the study was to determine the effect of the supervised pelvic floor muscle training in 14 days of period as other researchers emphasize on protocol for longer duration.

Research Methodology

Study Design

The study was experimental study design approved by the Institutional Review Board of Gurugram University. The study

was conducted through online mode. 30 subjects with PCOS were taken according to Rotterdam Criteria for PCOS. Subjects who were included in the study were general urban population in the age group of 18 to 35 years females diagnosed with PCOS.

Subjects with lumbar dysfunction, previous history of pelvic dysfunction, any sexual trauma and congenital deformity were excluded in the study. Dependent variable of the study was menstrual discomfort and independent variable was Rotterdam criteria.

Procedure-

One questionnaire was filled by subject's collection of data to gather information about problem faced by females during menstrual cycle.it consists of 10 questions were based on regularity, pattern and experience during menstrual cycle. Another self-designed questionnaire was designed to conduct this study was filled post pelvic floor muscle training exercise regime to check the effectiveness of treatment protocol.

Each subject was given a specific code to maintain confidentiality during study. They were guided about exercise protocol with the help of videos and handout. Subjects was supervised through whatsapp group and project guide was included for monitoring and quality check.

Exercise regime was comprised of a set of 4 exercises i.e., deep squat, gluteal squeeze, triple squeeze, kegel exercises, each set of exercises were repeated for 15 times with 5 seconds hold and relax time and 3 sets in each day for 2 weeks.

Data Analysis

The data thus collected were entered in a Microsoft Excel spreadsheet and data was analysed by using SPSS version 26 statistical software. The results were shown in the form of percentage or proportion in the form of charts.

RESULTS

Table: 1- Participants experience abdominal cramps during menstruation cycle pre and post exercise

	Pre (%)	Post (%)
Yes	76.1	16.7
No	13.3	80
May be	10	3.3

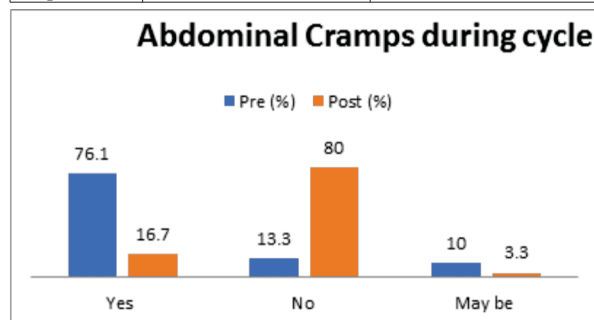


Table no. 1 showing 80% of participants of PCOS found relief from abdominal cramps after pelvic floor muscle training.

Table: 2- Participants experience headache or migraine associated with PCOS pre and post exercise

	Pre (%)	Post (%)
Yes	60	13.3
No	33.3	70
May be	6.7	16.7

Table no.2 showing that 70% of participants of PCOS found relief from headache and migraine after pelvic floor muscle training.

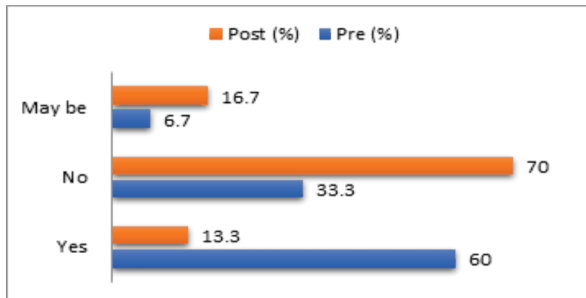


Table: 3- Participants having back pain associated with PCOS and pre and post exercise

	Pre (%)	Post (%)
Yes	73.3	20
No	26.7	80

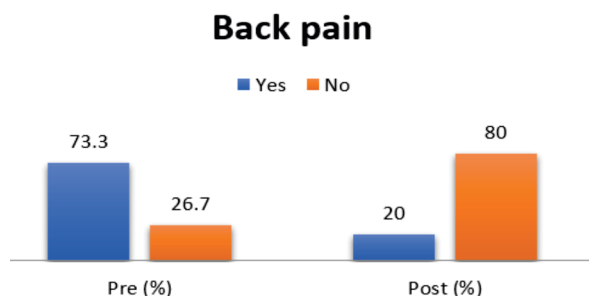


Table no.3 showing that 80% of participants of PCOS found relief from back pain after pelvic floor muscle training.

DISCUSSION-

Ana l.rocha et al also found PCOS is visible part and actual pathology is different and they that found medical treatment is also not successful completely from last many years [12].In 2010 Julie d.lamba also proposed that physical activity in women with PCOS have positive impact on BMI and on others physiological change in the body. So, it can be concluded that trail study about lifestyle and dieting greater impact on PCOS women [13].In 2020 Amie wood-wards [2]also suggested that supervised exercise training and increased physical activity to reduce cardiovascular risk in PCOS women.

In this study we have found that supervised exercise can provide a big breakthrough in treating PCOS through specific exercise protocol.in this study a 14 days exercise protocol was supervised by physical therapist help not only in PCOS but can be useful like physiological change like stress, anxiety and mood swings.Limitations of the study are Sample size was small, which should be revised to a large number of subjects, Exercise protocol can be extended to 3-4 weeks, there was no physical follow up of the subject after the study. Future scopes of the study are study can be done on a wider sample; other study can be performed with other age group.

CONCLUSION

In this study we find-out that a larger number of women are facing PCOS but not unaware of treatment other than medical treatment. This study was limited to online mode (what's app group YouTube video and self-made video) where as physical supervision can give better result.

This study concluded that the pelvic floor training is very important segment of women life in all age groups and this is beneficial in PCOS also but these groups of exercise regime can also be helpful in treating back, neck pain, urine incontinence and other pelvic disorder in other age group.

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