



*...The Newsletter of The PCOS Society of India*

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## Welcoming....

### Our New Patrons



**Dr. Riddhi Shukla**  
Gynaecologist



**Dr. Lilavati Guru**  
Gynaecologist

### Our New Life Members

Dr. Jatinder Kaur  
Dr. Meera Agarwal  
Dr. Shubhalaxmi Choudhary  
Dr. Monisha Singh  
Dr. Kiran Sood  
Dr. Nirzarini Vora Mehta  
Dr. Rini Acharya  
Dr. Rahul Khatri  
Dr. Sushmita Vashney

Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist

Dr. Rajender Jamwal  
Dr. Anita Bablad  
Dr. Pushpalata Shinde  
Dr. Deepali Nikam  
Dr. Swati Trivedi  
Dr. Kalpana B  
Dr. Rashmi Hoshamani  
Dr. Saubhagya Bhajantri

Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist  
Gynaecologist

## Supporting Team



**Dr. Zoish Patel**  
Co-ordinator



**Ms. Rochelle Lobo**  
Co-ordinator



**Ms. Marilyn Fernandes**  
Manager



**Ms. Sneha Choksi**  
Accountant



# Aspire 2022

The 11<sup>th</sup> Virtual Congress of the Asia Pacific Initiative on Reproduction  
Addressing the Challenges of Human Reproduction  
Thursday, 28 April - Sunday, 1 May, 2022

## Registration for the ASPIRE 2022 Virtual Congress is now open!

### REGISTRATION FEES

Registration Category	ASPIRE Member* Rate	Non-Member Rate
<b>Main Congress</b> [29 April – 1 May 2022]	USD 50	USD 70
<b>Pre-Congress Courses</b> [28 April 2022]	USD 20 per course per registrant	

- ASPIRE Members** is eligible for **reduced Congress registration fees!**
- ASPIRE is currently running a membership drive. Be an ASPIRE member** at a reduced membership rate and enjoy reduced congress registration fees!
- The pre-requisite to register for the pre-congress courses is to be registered to the main congress.

**ASPIRE 2022**    Phone: +886 2 8780-5688    Abstract Email: [abstract@aspire-2022.com](mailto:abstract@aspire-2022.com)    Registration Email: [reg@aspire-2022.com](mailto:reg@aspire-2022.com)

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## Editorial

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 Dr. Piya Ballani Thakkar  
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 Dr. Sujata Kar



### Dr. Duru Shah

MD, FRCOG, FCPS, FICS, FICOG, FICMCH, DGO, DFP  
 Director, Gynaecworld  
 The Center for Women's Health & Fertility, Mumbai  
**Founder President, The PCOS Society, India**  
**Chief Editor, Pandora**

My Dear Colleagues,

When we brought in the New Year 2022, we hoped that we had brought in a year which would be happier with a lot of smiles which could be seen without masks to cover them. I think our hopes and wishes are coming true!. Gradually we seem to be overcoming the menace of Covid-19, and hoping and praying that the third wave would be the last one. Only time will tell us the fate of this dreadful pandemic which brought the whole world on its knees!

So what is new in 2022? The **"Pandora"** in your hands is our first issue of Pandora in 2022, which is actually the 19<sup>th</sup> newsletter from our Society since its inception. It carries **Scientific academic articles** written by National and International experts in the field of PCOS, **"Points of View"** on a debatable subject by Experts in their fields, a new section, **"Hot off the Press"**, showcasing recent research on PCOS, a column on **"PCOS Quizzes"** our upcoming events and of course the News from the Society. Our **Special Interest Group on Dermatology** led by Dr. Gulrez, has initiated the development of Clinical Guidelines on a very important and debatable topic and we have also initiated the development of our **"4<sup>th</sup> Certified Course on PCOS"**. This year we are looking forward to plenty of **"W3 Webinars"**, **"Science Live programs"** and outreach to our patients through **"PCOS Connect"**

The **PCOS Quizzes** will run online between 1<sup>st</sup> April to 31<sup>st</sup> July 2022, once a week, which will then be followed by the **Grand Finale during the Annual Conference**, with huge amounts to be won and a lot to learn. Please check out the dates of our **"Live Annual conference and the Pre-congress Workshops"** which will be held on **16<sup>th</sup>, 17<sup>th</sup> 18<sup>th</sup> of September 2022**, with the same high academic standards as before!

I am proud to let you know that the PCOS Society of India has a **Vibrant Website** with plenty of Academic events, Certificate Courses; PCOS Quizzes etc. open to the Members of the PCOS Society! Join our Social Media handles like **Facebook, and Instagram** which are handled by our **Youth Brigade**, and watch our **You Tube channel** for informative videos for your patients.

Do join us and get a great **"Value for your Membership"** which you can avail online at a click of a button on our website. In this New Year we hope to see you in large numbers as Members of our Society!

With warm regards,



**Duru Shah**

Founder President, The PCOS Society

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[www.pcosindia.org](http://www.pcosindia.org)



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## Hot-off the Press



### Dr. Padma Rekha

MRCOG (U.K), FICOG, MBA (Health Care Management), PG DMLE (Med Law & Ethics)

■ IVF Specialist, Scientific Director  
Shreyas Hospital & Sushrut Assisted Conception Clinic

We have a selection of articles addressing both the diagnostic and the therapeutic aspects of PCOS, published recently in various journals. Here is a summary of each of these articles with references.

### Antimüllerian hormone (AMH) to determine polycystic ovarian morphology (PCOM)<sup>1</sup>:

It has long been debated whether AMH should be utilised as a suitable alternative for PCOM for the diagnosis of PCOS. In a retrospective, multi-centre, case-control study, this original article explores the concept. The authors have evaluated 455 women with PCOS according to Rotterdam criteria along with 500 women without PCOS. All women were aged between 24 and 45 years. Using Elecsys AMH Plus immunoassay for AMH and transvaginal scan for antral follicle count (AFC), the authors evaluated the relationship between these two diagnostic modalities.

In the validation cohort, an AMH cut-off of 3.2 ng/mL (23 p mol/L) resulted in a sensitivity of 88.6% (95% confidence interval [CI] 85.3-91.3) and specificity of 84.6% (95% CI 81.1-87.7) for PCOM diagnosis as well as an area under the receiver-operator characteristic curve of 93.6% (95% CI 92.2-95.1). The findings were consistent across all the phenotypes of PCOS.

### Visceral Adiposity Index (VAI) and Lipid Accumulation Product (LAP) as diagnostic markers of Metabolic Syndrome (Met S) in South Indians with Polycystic Ovary Syndrome<sup>2</sup>:

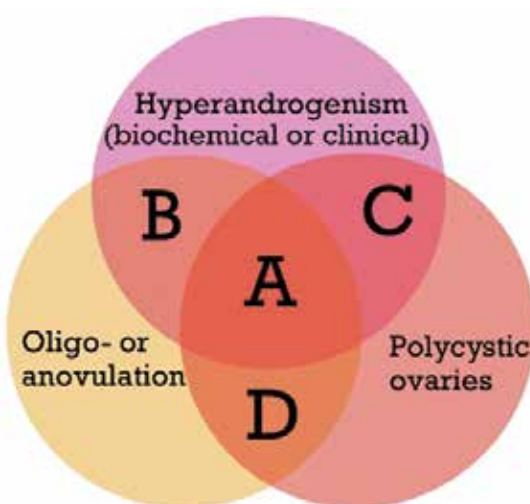
Metabolic syndrome continues to be the most worrying consequence of PCOS and efforts continue towards early and effective diagnosis of Met S in PCOS. In a cross-sectional study involving 150 women with PCOS and 100 women without PCOS, the authors have evaluated the role of VAI and LAP for the diagnosis of Met S.

The authors identify VAI as the marker having the strongest association for Met S and prudently indicate that the cut-off values are population dependent.

### Improvements in PCOS characteristics and phenotype severity during a randomized controlled lifestyle intervention<sup>3</sup>:

This randomised controlled trial evaluated the role of different lifestyle modifications on phenotype severity. The intervention group received lifestyle intervention involving three components – diet, exercise and cognitive behavioural therapy (n=60). In addition, one half of the patients received semi-automated SMS to encourage adherence to the goal (n=63). The control group was advised to lose weight through any manner they wished, without any specific inputs (n=60).

The results show that there was improvement in hyperandrogenism and ovulation which were related to weight loss. Importantly, those who received three point lifestyle intervention showed more profound improvements compared to the control



group. The study recommends a three point life style intervention for all overweight and obese women with PCOS, aimed at 5-10% weight loss before they conceive.

### Association of maternal Polycystic Ovary Syndrome or anovulatory infertility with obesity and diabetes in offspring: a population-based cohort study<sup>4</sup>:

A nationwide cohort study in Finland has compared the risk of childhood obesity and diabetes in offspring of women with PCOS / anovulatory infertility. A total of 1,097, 753 births during 1996-2014 were included and followed up until 31 December 2018. Of these, 24,682 births were in those with maternal PCOS or anovulatory infertility.

Accounting for birth factors and maternal characteristics such as obesity and diabetes, the hazard ratio (HR) for obesity was



increased in offspring below 9 years of age (HR 1.58; 95% CI 1.30-1.81), and in those 10-16 years of age (HR 1.37; 95% CI 1.19-1.57), but not in those aged 17-22 years (HR 1.24; 95% CI 0.73-2.11).

The combined effect of PCOS/anovulatory infertility and BMI-based pre-pregnancy obesity on offspring obesity (HR 8.89; 95% CI 7.06-11.20) was larger than that of either PCOS/anovulatory infertility or obesity alone.

For offspring diabetes, the HR was increased only between 17 and 22 years of age (HR 2.06; 95% CI 1.23-3.46), and specifically for Type 1 diabetes in females (HR 3.23; 95% CI 1.41-7.40). These findings support that maternal PCOS / anovulatory infertility influences the metabolic health of the offspring from early age.

### References

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- 2 Naghshband Z, Kumar L, Mandappa S, Niranjana Murthy AS, Malini SS. Visceral Adiposity Index and Lipid Accumulation Product as diagnostic markers of Metabolic Syndrome in South Indians with Polycystic Ovary Syndrome. *J Hum Reprod Sci*. 2021 Jul-Sep;14(3):234-243.
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- 4 Chen X, Koivuaho E, Piltonen TT, Gissler M, Lavebratt C. Association of maternal polycystic ovary syndrome or anovulatory infertility with obesity and diabetes in offspring: a population-based cohort study. *Hum Reprod*. 2021 Jul 19;36(8):2345-2357.

# Effect of a higher body mass index on the quality of oocytes and embryos in patients undergoing IVF treatment



**Dr. Haroon Latif Khan**  
 MBBS, MCE (Aus), FECSM  
 ■ Embryologist & Sexual Medicine Consultant  
 ■ CEO, LIFE Pvt Ltd, Lahore, Pakistan

Obesity is a fast-growing health issue that affects more than half a billion people worldwide. It has been estimated that by 2030, a predictable 38% of the young population will be overweight and 20% of the population will be obese<sup>1</sup>. In adult women, obesity causes menstrual dysfunction, anovulation, tubal infections, dysregulation of ovarian function, subfertility, congenital anomalies in developing fetuses, increased risk of complications before and after pregnancy, lower implantation, and higher rates of miscarriage. It also causes insulin resistance and hyperinsulinemia, which can lead to hyperandrogenemia. In addition, the adipose tissues of obese women are responsible for releasing adipokines, which can interact with numerous cellular pathways such as inflammation, hypertension, cardiovascular diseases, diabetes, folliculogenesis, and oocyte maturation. While weight loss programs through a balanced diet, controlled eating habits, and lifestyle changes have been reported to restore metabolic and reproductive function in obese women<sup>2</sup>.

Previously, obese women have been reported to require a higher dose of follicular stimulating hormone (FSH) during ovarian stimulation and retrieved a lower number of oocytes, as well as had a higher cycle

cancellation rate than non-obese women<sup>3</sup>. Therefore, the present study was designed to investigate the impact of obesity on ovarian stimulation, oocyte, and embryo quality in patients undergoing IVF treatment. The study was designed retrospectively to evaluate the data of 250 infertile women undergoing IVF treatment at the Lahore Institute of Fertility and Endocrinology, Hameed Latif Hospital, Lahore, Pakistan, between January 2017 and December 2020. Patients (25-30 years) were divided into three groups according to their body weight, Group A with BMI  $\leq 25$  kg/m<sup>2</sup>, Group B overweight 26-30 kg/m<sup>2</sup>, and Group C, Obese  $>30$  kg/m<sup>2</sup>. The institutional ethics committee approved the study. Patients with any congenital anomaly, pelvic pathology, urogenital surgery, any sexually transmitted disease, recurrent abortions, alcoholic addiction, any infectious disease, underwent hormonal replacement therapy during the last three months, any uterine abnormalities, and immunosuppressed were excluded from this study. Body mass index was calculated using the formula BMI = Kg/m<sup>2</sup>. The blood samples were collected serum was separated instantly and stored at -20C<sup>0</sup>, which included follicular stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E2), and antimullerian duct hormone (AMH) on the 2nd day of the menstrual cycle by electrochemiluminescence immunoassay according to the manufacturer's instructions. All patients underwent a short-acting protocol of stimulation. The evaluation of oocyte quality was performed under an inverted microscope after removing corona radiata cells. The maturation of the oocytes was observed and MII mature oocytes were microinjected.

Statistical analysis was performed using the SPSS statistical package SPSS (version 21; SPSS Inc., Chicago, IL, USA). A significant statistical difference was considered  $p < 0.05$ .

**Our results showed that there were no significant differences in terms of the number of oocytes inseminated or the fertilization rate between three groups of patients.** Group C was significantly associated with a lower embryo utilization rate ( $p < 0.05$ ), a higher number of embryos discarded ( $p < 0.001$ ), and the least number of embryos cryopreserved ( $p < 0.005$ ). Group C has a poor mean of embryo classification and



a higher fragmentation rate ( $p < 0.001$ ) than the normal and overweight subgroups. **The dose of gonadotrophins is significantly higher ( $p < 0.05$ ) in the obese group than in the normal and overweight group.** To select high-quality embryos, we found an insignificant association among the three groups ( $P = 0.54$ ).

The previous study has shown that obesity is correlated with severe reproductive outcomes, and poor response to ART procedures<sup>4</sup>.

## References

- 1 Kelly T, Yang W, Chen CS, Reynolds K, He J. Global burden of obesity in 2005 and projections to 2030. International journal of obesity. 2008 Sep;32(9):1431-7.
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- 3 Zhang JJ, Feret M, Chang L, Yang M, Merhi Z. Obesity adversely impacts the number and maturity of oocytes in conventional IVF not in minimal stimulation IVF. Gynecological Endocrinology. 2015 May 4;31(5):409-13.
- 4 Goldsammler M, Merhi Z, Buyuk E. Role of hormonal and inflammatory alterations in obesity-related reproductive dysfunction at the level of the hypothalamic-pituitary-ovarian axis. Reproductive Biology and Endocrinology. 2018 Dec;16(1):1-0.



# Ideal Workout for PCOS: Points of View



## Dr. Tvisha Parikh

MBBS, Masters, PhD

- Exercise & Sports Physician  
Sir HN Reliance Foundation  
Hospital, Mumbai

### HIGH INTENSITY INTERVAL TRAINING

The aim of exercise in PCOS is multifold from improving insulin sensitivity, cardiovascular fitness, muscle mass, fat loss and psychological well-being. High intensity interval training (HIIT) improves all these in a woman with PCOS. HIIT involves short bouts of high intensity exercise (80–100% of peak heart rate) interspersed with active recovery at lower intensity. Research shows that compared to continuous aerobic exercise, HIIT was more efficient in improving insulin sensitivity and fat mass but effects on lipid profile were not significantly different. The effect on body composition was pronounced in obese PCOS.

Clinically, I have observed many injuries after HIIT, causing discontinuation of exercise and loss of all exercise benefits. Also, the high intensity of HIIT and its ensuing fatigue is often not well accepted by females, especially when fitness levels are low, leading to HIIT discontinuation. Practically, the exercise which is easily integrated into patient's life and has best acceptance is likely to be adhered to the most and is what gives maximum benefit in the long term. Like medication, HIIT should be prescribed after an evaluation of person's capacity and risk factors.



## Nawaz Modi Singhania

- Body Art Fitness Centres  
■ Founder, Lifestyle, Fitness &  
Wellness Expert

### PILATES

In a rough estimation, of all those diagnosed with PCOS, 30% are lean. Of that 30%, approximately 75% suffer from insulin resistance. It is therefore more difficult to remain & maintain the status of Lean PCOS. This translates into a slow weight gain, specially around the waist.

While lean PCOS patients need more resistance training / body weight training, Pilates is a tailor-made option as the mid-section tends to bulge, and as Equipment-based Pilates specially work from & on a strong core or centre. It is more difficult to remain lean if you have PCOS. Such individuals are more prone to slowly gaining weight & retaining it. Training the muscles & resistance-training via Pilates is a fabulous option. As it's largely core-related work, it hits the problem area right away. Pilates training will help you manage your hormones & keep symptoms under control. The type of body musculature that Pilates works on developing & achieving is a long, lean, slender look, lending to a petite yet strong body.

Having said all that, there's no getting away from Cardio. The bulk, the fat that creeps up has got to be aided by being burnt off through Cardio activities. A combination of the two would work wonders. Other benefits of Cardio for those with PCOS would be clearer, glowing skin, increased scalp hair growth and shine, all due to the increased circulation that happens via Cardio activities.

Having trained many with PCOS, Lean & otherwise, personally I have found this combination to be the most effective.

## IDEAL WORKOUT FOR PCOS

### What kind of exercises work in PCOS patients? Do Lean & Obese PCOS need different workout routines?



## Dr. Kruti Khemnani

Masters in Sports and MSK physiotherapy, Bachelors in Physiotherapy

- Founder and Principal Physiotherapist: Continuum physiotherapy and Rehab LLP (Mumbai, Pune)

### RESISTANCE TRAINING/ WEIGHT TRAINING,

improves insulin resistance, glucose metabolism and resting metabolic rate, and lowers body fat. Furthermore, it can increase insulin sensitivity. Once these systemic changes have been obtained and the patient has lost the major chunk of their weight, the role of weight training is then to focus on injury prevention, degenerative arthritis prevention as well as prevention of lifestyle-based aches and pains.

Obese women in carbohydrate- restricted diet plus weight training had greater fat loss, weight loss and more favourable changes in health markers. This obese PCOS women compared to the lean ones, would respond a lot better by including resistance training in their regime to manage PCOS.

In practice, we see multiple women between the age of 20 to 45 yrs, who come to us with aches and pains for Physiotherapy. When traced back to systemic issues, the above-mentioned cycle emerges. We see a clear deficit in their muscular strength to support their skeletal system which starts breaking down causing aches and pains and thus functional deficits and tertiary mental health issues. The only way to break this cycle is to introduce weight training to improve their muscular capacity and thus assist with the systemic gains.



## Sonika Sudan

- Head Sports Physiotherapist at Lakshyan Academy of Sports, Bangalore
- Ex-physiotherapist for Indian Women's Hockey Team & Football Team

### AEROBIC EXERCISE IN PCOS

Lifestyle interventions and modifications are the cornerstone of PCOS treatment. Aerobic exercise is a well established fact for prevention and management of chronic diseases, and is consistent with PCOS patients. Aerobic/cardio training not only improves cardiac, metabolic and reproductive health but it also provides psychological well being. It is important to educate our patients that benefits of exercise must not be restricted to losing weight as it doesn't always show results instantly. Clinically, I have seen and research has proved that it improves menstrual regularity, chances of pregnancy, ovulation rates and behaviour. Aerobic fitness can be developed with brisk walking, cycling, swimming or cross trainer, to name a few which are safe to start with.

Running should be introduced very carefully especially for obese PCOS as it adds high risk of musculoskeletal injuries. It is advisable to start running twice a week and progress gradually. 20 mins of any aerobic exercise if done 4 to 5 times a week impacts insulin sensitivity, reduction in visceral fat and improves reproductive function. Aerobic exercise should be prescribed after thorough examination. It is important to know the baseline fitness and exercise history of the patient for better recommendation. From my personal experience, if patients are given structured 6 weeks plans with objective, adherence is high.

# Pre-Congress Workshops & 7th Annual Conference

## “OLD QUESTIONS NEW ANSWERS .... ALL ABOUT PCOS”

16-18th September 2022 (Provisional program)

### 16th September 2022 - PRE-CONGRESS WORKSHOPS

#### Workshop 1 : Ultrasound in PCOS - From Adolescence to Menopause

##### Session 1: Diagnosis in PCOS

- Does polycystic ovarian morphology confirm the presence of PCOS?
- Should Serum AMH replace ultrasound PCO Morphology as a diagnostic marker?
- How best can we assess endometrial pathology in Abnormal Uterine Bleeding?

##### Discussion

##### Session 2: Fertility Management

- Monitoring Ovulation Induction in non-ART cycles - Is it essential?
- Should hormonal monitoring be added to ultrasound monitoring in ART cycles?
- Does Ultrasound assist in the prevention and management of OHSS?

##### Discussion

##### Session 3: Controversies

- Does baseline assessment of blood flow in the ovary predict ovarian response?
- Is doppler assessment of endometrium essential prior to embryo transfer?
- Should monitoring of Ovarian Stimulation be done by the Fertility expert or Radiologist?

##### Discussion

#### LUNCH BREAK

#### Workshop 2: Hormones in PCOS at Perimenopause

##### Session 1:

##### 1. Sexuality

- Do hyper androgenic women have an increased libido?
- Do OC pills reduce the sex drive?
- Are vaginal estrogens effective?

#### 2. Menopausal Hormone Therapy in PCOS

- Which MHT would be ideal for Menopausal symptoms?
- What would be the benefits v/s risks in such women?
- Do hormones affect the risk of Cancer?

##### 3. Obesity

- Adipose Tissues – are there different types?
- How do lean PCOS women differ from obese PCOS?
- How do we best manage metabolic syndrome in PCOS women?

#### Workshop 3: Fertility and Assisted Reproduction

##### Session 1: Ovulation Induction in PCOS

- Does pre-stimulation treatment impact success?

- How should we Customizing Ovulation Induction Protocols?
- Poor response to ovulation induction – How should it be addressed?

##### Discussion

##### Session 2: Individualizing Management

- How do we individualize Luteal Phase Support?
- Do adjuvant treatments improve success rates with Ovulation Induction?
- Does weight loss prior to ART matter?

##### Discussion

##### Session 3: Overcoming challenges

- Should we routinely follow Freeze all Policy?
- Managing thin Endometrium in a freeze all cycle
- Can PCOS result in recurrent pregnancy loss?



##### Discussion

## SAVE THE DATES

16th, 17, 18th  
September 2022

Pre Congress Workshops  
& 7th Annual Conference

Old Questions  
New Answers .... all about PCOS!

#### Workshop 4: PCOS and Pregnancy

##### Session 1: The First Trimester

- Is a PCOS woman at a higher risk of Pregnancy Loss?
- How do we monitor early pregnancy to prevent pregnancy loss?
- Progesterone therapy in first trimester - what is the best protocol?

##### Discussion

##### Session 2: The Mid and last Trimester

- What is the significance and risk of excessive weight gain?
- Should Metformin be continued in pregnancy?
- How often should the fetus be evaluated?

##### Discussion

##### Session 3: Preventing OHSS in the next generation

- Observations in the new-born of a PCOS mother
- Maternal hyperandrogenaemia – its effects
- Maternal Obesity – its effects

##### Discussion

## 17th September 2022 - DAY 1

##### Session 1: Reproductive hormones and the brain

- Effect of Anti-Müllerian Hormone - does it prolong fertility?
- Effect of Androgens – Do they increase sexuality and mood?
- Effect of Melatonin - Does it improve sleep and reduce stress?

##### Discussion

##### Session 2: Key Note Address: Adipose tissue in PCOS: linking metabolic & reproductive dysfunction.

##### Inauguration

##### Session 3: Managing Adolescent PCOS

- Contraceptive
- Menstrual Dysfunction
- Anxiety and Depression

##### Discussion

##### Session 4: Managing Gut Dysbiosis

- What is the connection?
- What can it lead to?
- How do we manage?

##### Discussion

##### Session 5 - Panel Discussion: Why is Acanthosis Nigricans relevant today?

## 18th September 2022 - DAY 2

##### Session 6: Free Papers

##### Session 7: Adjuvants in PCOS: Pros & Cons

- Inositols – Metabolic & Reproductive function
- Vitamin D – a vitamin or a hormone

##### COFFEE BREAK

##### Session 8 - Key Note Address: Is there a "PCOS Drug"?

##### LUNCH BREAK

##### Session 9: PCOS and Assisted Reproduction – overcoming challenges

- How versatile is the GnRh agonist?

- Does the luteal Support differ in Frozen ET cycles?
- The Thin Endometrium in a freeze all cycle
- Grand Finale of PCOS Quizzes
- Valedictory

## Youth Brigade Coordinator's Note



**Dr. Jwal Banker**

M.S., DNB ObGy  
Associate Gynaecologist,  
NOVA IVF Fertility, Ahmedabad

Let me start by saying a big "Thank You!" to Dr. Duru Shah and the Managing Committee of The PCOS Society of India for introducing the Youth Brigade. We are a team of people chosen from all over the country who have different areas of speciality but have a common interest of helping women with PCOS by assisting the core team. We are involved in various activities like digital and social media awareness, organizing the website, helping in Pandora newsletters, assisting in quizzes and webinars, etc. Presently, we have divided ourselves into groups, each of which has a separate agenda. Each group of about 4-5 youth members

will come up with fresh ideas for promoting awareness and helping the Society reach more people. Our more ambitious ideas are to create frequent educational videos and conduct seminars through which we can connect to the people at a direct level too. We will be working under direct guidance of the Core Committee members, who have always been very helpful in every aspect. Through this wonderful opportunity, we get to work under seniors who have immense experience and expertise which will help us grow. We are delighted to be a part of this, and we shall contribute in every way possible.



## PCOS Quiz



**These are a few of the questions that our Super 6**

**Participants of the PCOS Grand Finale Quiz had to attempt during the Finale Round. Test yourself to see if you know the correct answer!**

1. **What is the evidence for Genetic Basis of Polycystic Ovary Syndrome?**
  - a. Familial clustering of cases
  - b. Concordance greater in identical than in non-identical twin pairs estimated genetic influence 79%, environment 21%
  - c. Heritability of endocrine and metabolic features
  - d. Mode of inheritance uncertain. Complex endocrine disorder (like type 2 diabetes) likely to be oligogenic or polygenic
  - e. All of the above
2. **Why was LH/FSH ratio excluded from NIH 2012 criteria?**
  - a. Many women with functional hypothalamic amenorrhea have elevated LH to FSH ratio
  - b. High inter-cycle variability
  - c. No specific assays are available
  - d. Normal LH/FSH ratio in lean PCOS
3. **What is the LH pulse frequency in PCOS?**
  - a. One pulse per hour
  - b. 10 pulses per hour
  - c. 3 pulses per hour
  - d. 50 pulses per hour
4. **Which of these races is not a high- risk for PCOS?**
  - a. African-American
  - b. Afro-Brazilian
  - c. Black
  - d. Chinese

Quiz Answers - 1. e; 2. a; 3. a; 4. d

**Presents Once Again**

**Grand Finale to be held during the Annual Conference in September 2022.**

**Do participate in the Weekly Quizzes starting from 1st May 2022 – 15th August 2022**

**Convenor: Dr. Duru Shah**

**Coordinators: Dr. Madhuri Patil | Dr. Padma Rekha Jirge**

**Content developed by: Youth Brigade**

- A new quiz will be published every Sunday and will remain open for the next 6 days
- Learn whilst Quizzing
- Attempt every quiz because your final score will allow you to qualify for the Grand Quiz
- Top 100 to qualify for the elimination round which will be held on 28th August 2022
- Exciting prizes to be won!
- **So, put your thinking caps on!**

# W3 Webinar Series

If you have missed out on any of these webinars please view the recordings on the link - <https://pcosindia.org/webinars.php>

A panel of high academic standards and conducted in a brilliant way!

- Dr. Sadhana Patwardhan

Good job! This was enthusiastic & very informative.

- Dr. Laxmi Kumar

Time spent was such awesome.

- Dr Shradha Prabhu

One of the best discussion.

- Dr Kalyani S

Thank you for a wonderful panel, enjoyed and learned so much.

- Dr Keshav Malhotra

★★★★★  
4.9 out of 5 rating

**WHAT WHEN WHY**

THE PCOS SOCIETY INDIA

Interactive Case Discussions on PCOS

Earn CME points for the W3 Webinar Series

**Does COVID-19 affect fertility and its treatment?**

11th December 2021 | 7:00 - 8:30 pm (IST)

**Dr. Dera Shah**  
Founder President - The PCOS Society (India)  
MD, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**Dr. Pooja Bokha Irje**  
JIT Specialist  
Jawahar Institute of Postgraduate Medical Education & Research  
Moderator

**EXPERTS**

**Dr. Keshav Malhotra**  
Endocrinologist  
MD, MS, DM, FRCR  
Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. S. Nandini**  
Gynaecologist  
MD, MS, FRCR  
Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Prakash Malhotra**  
Endocrinologist and Andrologist  
MD, MS, DM, FRCR  
Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Sadhana Patwardhan**  
Family Specialist  
MD, MS, FRCR  
Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Sima Kumar**  
Pediatrician  
MD, MS, FRCR  
Senior Lecturer, ICMR, IISc, Bangalore, India

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**WHAT WHEN WHY**

THE PCOS SOCIETY INDIA

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**"Do Inositols play a role in PCOS management?"**

18th December 2021 | 7:00 - 8:30 pm (IST)

**Dr. Dera Shah**  
Founder President - The PCOS Society (India)  
MD, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**Dr. Sonika Malik**  
Director & MD, In Vitro Fertilisation & IVF  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**EXPERTS**

**Dr. Madhuri Patel**  
Associate of Dr. Parit, Fertility and Endocrinology  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Manjira Vaidya**  
Associate JIPG, Fertility, Endocrinology & Metabolism  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Kavita Agrawal**  
Associate Professor, Endocrinology & Metabolism  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Sneha Wadga**  
Additional Professor (ARF), Endocrinology  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

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Superb, It was very clear and understandable.

- Dr. Rekha Kuwar

Thank you for the great webinar. It was extremely helpful.

- Dr. Saima Gaya

Absolutely fabulous program.

- Dr. Ashima Sood

Very enlightening session.

- Dr Deepa Kapoor

That was really great - Thank you.

- Dr Smriti Saxena

★★★★★  
4.8 out of 5 rating

Thank you PCOS Society and Omicuris for organizing such webinars.

- Dr. Roma Jaiswal

This was an Excellent discussion.

- Dr. Neela Baheti

Absolutely fabulous program.

- Dr. Chitra R

Very informative session.

- Dr. Shifa Khan

Very crisp and to the point.

- Dr. Bharati Rathod

★★★★★  
4.8 out of 5 rating

**WHAT WHEN WHY**

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Earn CME points for the W3 Webinar Series

**"PCOS & OHSS- How do we prevent and manage it?"**

29th January 2022 | 07:00 pm to 8:30 pm (IST)

**Dr. Dera Shah**  
MD, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**Dr. Nandini Kaul (Mahajan)**  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**EXPERTS**

**Dr. Rajika Rao**  
Practising Gynaecologist, Endocrinology & Andrology  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Nympha Vaidya**  
Gynaecologist & Infertility Specialist  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Ganesh Desai**  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Nandini Jha**  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Chakrabarti Anshu**  
Endocrinologist, Senior Lecturer  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

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**WHAT WHEN WHY**

THE PCOS SOCIETY INDIA

Interactive Case Discussions on PCOS

Earn CME points for the W3 Webinar Series

**"Optimizing Success in Fertility Treatment in PCOS"**

16th April 2022 | 6:00 pm to 7:30 pm (IST)

**Dr. Dera Shah**  
MD, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**Dr. Sonika Malik**  
Director & MD, In Vitro Fertilisation & IVF  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India  
Moderator

**EXPERTS**

**Dr. Ganesh Desai**  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Madhuri Patel**  
Associate of Dr. Parit, Fertility and Endocrinology  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

**Dr. Durgita Rao G**  
MD, MS, FRCR, Senior Lecturer, ICMR, IISc, Bangalore, India

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Our Forthcoming Webinar

## Do Adolescent PCOS also have PMS?



**Dr Anish Desai**

MD, FCP, PGDHEP  
Nutraeutical Physician

■ Honorary Professor Pharmaceutical  
Medicine for Maharashtra University  
of Health Sciences (MUHS)

One of most common endocrine ailments in women is Polycystic Ovary Syndrome (PCOS). It is associated with significant morbidity, such as poor reproductive health, psychosocial dysfunction, metabolic syndrome, cardiovascular disease, and an increased risk of cancer. The underlying etiopathogenesis, diagnostic criteria, and recommendations for PCOS in adolescents are still being debated [1]. In India, PCOS prevalence ranges from **3.7 to 22.5%**, depending on the population studied and the criteria used for diagnosis. **According to a study by the PCOS Society, one in every ten women** in India has PCOS. And out of every ten women diagnosed with PCOS, six are teenage girls. The reported prevalence estimates of Premenstrual Syndrome (PMS) in India have ranged from **14.3% to 74.4%**. Similarly, the reported prevalence of Premenstrual Dysphoric Disorder (PMDD) in India has varied widely between 3.7% to 65.7% [2, 3].

PMDD is a severe form of PMS. On the other hand, PCOS is a hormonal disorder that usually causes irregular periods, weight gain, and excessive hair growth. The psychological symptoms of these two disorders often overlap. PMS encapsulates the symptoms many women experience in the weeks before their periods. Almost every woman will have PMS at some point in their lifetime. PMS can manifest both emotionally and physically [4]. In a cross-sectional descriptive correlational study conducted to identify young women's menstrual cycle patterns & the prevalence of PMS & PCOS were found to be at 25.5% & 5.2% respectively [2].

Managing a complex mix of hormones is challenging with PCOS. At the same time, added burden of PMS can make emotions even more pronounced, especially in young adolescent women.

Oral contraceptives, weight management, dietary changes, nutraceuticals, fertility treatments, anti-androgens have been used for therapeutic management of problems arising from PCOS. The empirical data suggest that use of nutraceuticals is increasing due to their promising role in the PCOS & PMS management.

### Different nutraceuticals in the management of PCOS & PMS [5] are:

**Evening primrose:** It helps in the reduction of hormonal complications in PCOS by changing the concentration of FSH, LH & testosterone.

**Myo-Inositol (MI):** It heals hyperandrogenism and parameters associated with insulin resistance. MI also helps in the improvement of lipid profile of women with PCOS.

**Omega-3-fatty acid:** Supplementation with Omega-3-fatty acids improves insulin resistance associated with PCOS pathology & lipid profile of these women.

**N-acetyl-L-cysteine (NAC):** Its is a precursor of glutathione and it reduces BMI and cholesterol levels, improves insulin sensitivity, menstrual cyclicity, and lowers hirsutism scores.

**Vitamin D:** Low levels of vitamin D aggravate the symptoms of PCOS such as insulin resistance, menstrual irregularities, infertility and hyperandrogenism.



**Magnesium:** Supplementation with magnesium helps to enhance insulin sensitivity, decreases inflammation associated with PCOS and eases PMS symptoms.

However, no medication can completely alleviate symptoms of PCOS & PMS. Reducing symptoms with the correct approach – in particular, using nutraceuticals can be helpful.

### References

- 1 Kamboj MK, Bonny AE. Polycystic ovary syndrome in adolescence: diagnostic and therapeutic strategies. *Transl Pediatr.* 2017;6(4):248-255. doi:10.21037/tp.2017.09.11
- 2 Park YJ et al. Menstrual Cycle Patterns and the Prevalence of Premenstrual Syndrome and Polycystic Ovary Syndrome in Korean Young Adult Women. *Healthcare (Basel).* 2021 Jan 7;9(1):56.
- 3 Dutta A, Sharma A. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. *Health Promot Perspect.* 2021 May 19;11(2):161-170.
- 4 <https://www.nhs.uk/conditions/pre-menstrual-syndrome/>
- 5 Günalan E, Yaba A, Yılmaz B. The effect of nutrient supplementation in the management of polycystic ovary syndrome-associated metabolic dysfunctions: A critical review. *J Turk Ger Gynecol Assoc.* 2018;19(4):220-232.

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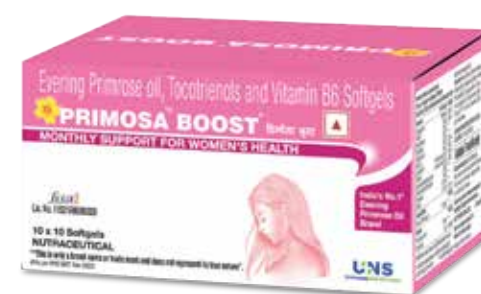
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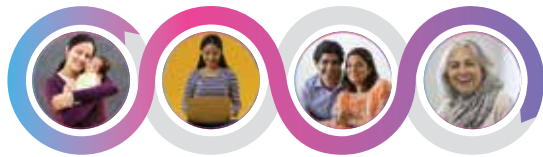
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1. The New Indian Journal of OBGYN. 2019 (January-June); 5(2)

\*As a nutritional supplement