

News and Perspectives

Closing Treatment Gaps for Polyendocrine Metabolic Ovarian Syndrome in India

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Abstract

Polycystic ovarian syndrome, also known by the newly proposed term polyendocrine metabolic ovarian syndrome (PMOS), is an understudied and underfunded condition, despite its health burden and the urgent need for more effective treatment. In this *News and Perspectives* article, JMIR Correspondent Bharath Thampi reports on the factors affecting PMOS treatment in India—especially rural regions—and on a new digital twin treatment initiative.

Key Takeaways:

- Public understanding of polyendocrine metabolic ovarian syndrome in India has historically been lacking, with myths and misconceptions adding barriers to treatment.
- Advances are being made to improve understanding among both patients and the medical community, as well as to improve treatment options, including for those in rural regions.

According to a [2024 study](#) in *JAMA Network Open*, the estimated prevalence of polycystic ovary syndrome (PCOS)—a condition with symptoms that often include menstrual irregularity, obesity, hair loss, and acne development, and that can lead to infertility—in females of reproductive age in India was 19.6% or 7.2%, depending on the criteria used. Another [2024 study](#), published in the *Indian Journal of Public Health*, suggested that public health care providers lacked the knowledge to accurately diagnose PCOS—meaning many cases likely go undiagnosed.

Treatment in India has largely revolved around treating infertility and reducing weight gain, neglecting its other metabolic and psychological effects, and treatment is often inadequate or delayed.

Akshita Sharma, a marketing associate from Lucknow, now 35, was diagnosed accidentally around age 18 to 19, when an abdominal ultrasound revealed multiple ovarian cysts.

“During my first meeting with a gynecologist [after diagnosis], she casually dismissed my concerns. ‘You’re too young to worry about this now. Once you get married and have a child, all this will be fixed.’ I was quite taken aback.”

Understanding of the condition is improving. Once primarily understood as ovarian dysfunction and framed as a fertility issue, a global panel [recommended renaming](#) PCOS to polyendocrine metabolic ovarian syndrome (PMOS) in May 2026, reflecting acknowledgment that the condition also includes endocrine, metabolic, reproductive, psychological, and dermatological features. Nonetheless, persistent misconceptions, stigma, and other challenges remain.

“Prescribing contraceptive pills and weight-loss medicines to a teenager was the only solution to [PMOS] when I was first diagnosed. Years later, I’m not sure if things have changed

a great deal in India,” muses Kanika Arora, PhD, a law professor hailing from New Delhi.



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Kanika Arora, PhD

Barriers to Diagnosis and Treatment

Duru Shah, MD, is a leading gynecologist and infertility specialist based in Mumbai, with close to 45 years of experience treating women’s health conditions and nearly 25 years of working on PMOS. She’s also the founder president of the [PCOS Society of India](#) and represented the organization at the global panel where the condition was renamed.

She confirms Sharma’s experience, noting that, many years ago, women approached her for treating irregular periods only after their marriage, when conceiving became a problem.

Other myths and misconceptions have also made prompt diagnosis and treatment difficult.

Sheila Balakrishnan, MBBS, MD, DNB, FRCOG, PhD, one of the leading infertility specialists in Kerala and the former Head of Department of Reproductive Medicine at the Government Medical College, Trivandrum, says that there's a mistaken belief that PMOS is always associated with obesity, adding that around 20%-30% of those afflicted can have "thin PMOS."

Beena Joshi, PhD, a senior scientist at the [National Institute for Research on Women's Health](#) (NIRWoH), agrees. She has worked in community medicine and reproductive health across more than 50 villages and notes that, "in rural regions, protein energy malnutrition can co-exist with a high calorie diet nowadays. We also receive a large number of [PMOS] cases with obesity as a symptom; however, lean [PMOS] phenotypes are not uncommon."

Those rural regions face additional barriers. "In the prevalence of [PMOS] cases," Joshi says, "we didn't find a major urban-rural divide. Rather, the accessibility to diagnosis and treatment was indeed a problem."

There has been, for example, longstanding stigma and misconceptions around the use of contraceptive pills in young women diagnosed with PMOS. There are several myths about side effects or long-term effects, she says, adding "we receive a large number of cases among the socially marginalized populations, where females refuse to take birth control pills or are [pressured] by the elders in their family to do so, for fear of permanent infertility induced by that."

Lack of available personnel and poverty also limit treatment options in these regions.

Shah notes that the treatment for PMOS typically isn't costly because it's mostly focused on lifestyle changes. Most of the medications used for PMOS treatment offer generic drug counterparts in India. Nonetheless, poverty can limit the availability and accessibility of healthy dietary choices and even less pricey medications.

Going Digital

Digital solutions may help close this gap.

A digital twin is a digital replica of a patient created using their own medical data. Without the patient having to be physically present, digital twins can be used to develop predictive models that can help with formulating effective, individualized treatment plans.

Paramesh Shamanna, MD, a medical expert with over 30 years of experience in metabolic health, was the Medical Director for [Twin Health India](#) when they developed their AI Digital Twin technology in 2022 and 2023. It uses AI to make personalized metabolic health recommendations to help address conditions like PMOS, which are delivered via mobile app.

Keywords: polycystic ovary syndrome; health services accessibility; rural health services; poverty; social stigma; health personnel; India; digital twin; mobile apps; polyendocrine metabolic ovarian syndrome

"Our early experience itself was quite profound," Shamanna says. "For example, many of the patients followed diet plans entirely based on the AI predictions, and the weight loss that they achieved was remarkable. Similar results were observed for period regularization and other aspects."

Although most of their participants have been young, educated, urban girls and women, the trend will eventually carry forward into other sections of society, Shamanna hopes. In the longer run, the use of digital twins can become more affordable and accessible than conventional PMOS treatment, especially for patients from rural and suburban regions. For the same reason, Shamanna feels it's important to launch the app, currently available in English, in regional Indian languages too.

Currently, digital twin technology has been expanded into a few more cities in India, like Mumbai and Lucknow. "The technology is still in its early stages. All AI prediction models, including this one, get more accurate with time and larger input data. Also, we advise patients not to completely neglect medical evaluation based on an AI app."

The Future of PMOS Treatment in India

Although reproductive health awareness was alarmingly low in the past in rural India, it has changed for the better with smartphones and social media, Shah feels. "It's easier for us to convey the basic aspects of [PMOS] to young females from such regions nowadays."

Research is also advancing, particularly on the factors that may contribute to or be associated with PMOS, including [fetal androgen exposure](#) and [cardiovascular risk](#), which may lead to improvements in existing treatment options or new treatment options altogether.

Future interventions could build upon the Digital Twin platform's model to address other gaps in PMOS treatment and expand treatment options. For example, providers in India rarely recommend psychological support, despite the fact that PMOS is one of the most common endocrine disorders affecting the [quality of life and psychological well-being](#) of women of reproductive age in India.

A progressively informed understanding of PMOS in recent years in India has certainly improved treatment accessibility, especially among the socially and economically underprivileged sections of society. For those living with the condition—and who have dealt with limited treatment options, like Sharma and Arora—taking into account the multifaceted nature of PMOS will offer a much broader plan to tackle the condition going forward.

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