

Is Sperm Quality Declining in Indian Men? What a Large 4-Year Study Found

Male-related factors play a role in a large share of infertility among couples, and there has been growing concern worldwide about falling sperm quality. To see whether the same is happening in India, the research team at **Indira IVF** studied the semen reports of **64,452 men** who visited its fertility centres across the country over four years (2018 to 2021), one of the largest studies of its kind in India.

The findings pointed to a **gradual decline in semen quality** over the four years. By 2021, men were noticeably more likely to have abnormal semen results than in 2018. Overall, about **72% of the men had at least one abnormal semen parameter**, meaning male factors contributed to roughly three out of four of these couples' difficulties.

Doctors assess three main things in a semen sample: the sperm **count** (how many), **motility** (how well they move), and **morphology** (their shape). Many men fell below the healthy range on one or more of these. The study also found that **azoospermia**, when no sperm are found in the semen, affected about 9% of men, and this varied by region, from around 6% in the North to 14% in the East.

Data Table

Region	Samples	Avg count (M/mL)	Motility %	Morphology %	Azoospermia %
East	13,924	42.07	36.37	1.85	14.2
West	22,199	42.9	37.31	2.1	8.5
North	3,969	37.92	36.9	2.2	5.8
South	24,360	48.88	36.74	2.51	7.4
All India	64,452	44.67	36.87	2.21	9.1

The likely reasons include environmental, dietary and lifestyle factors, though more research is needed. The reassuring message: a semen test is a simple first step, and many causes of male infertility can be evaluated and treated. If you and your partner are trying to conceive, an early check-up can make all the difference.

Study at a glance

- Study type: Retrospective observational study
- Participants: 64,452 men seeking infertility evaluation
- Setting: Indira IVF centres across India
- Study period: 2018–2021
- Published: Fertility Science and Research, 2023

- **Methods:** Semen analysis assessed using WHO 2010 criteria

Key findings from the study

- **Abnormal semen parameters were common in this clinical cohort:** 46,480 of 64,452 participants (72.1%) had at least one abnormal parameter.
- **The study observed a worsening trend over time:** compared with 2018, the odds of an abnormal semen parameter were higher in 2021 (OR 2.415; 95% CI 2.295–2.541).
- **Semen parameters varied across regions:** statistically significant differences were observed in sperm concentration, motility, morphology and azoospermia prevalence.
- **Azoospermia was reported in 9.1% of participants:** this means no sperm were detected in the semen sample.

Bhoi NR, Chandra V, Murdia N, et al. *Geographical distribution of semen quality parameters in men visiting tertiary care infertility centers across India: A retrospective study.*

Fertility Science and Research. 2023;10:158–163. doi:10.4103/fsr.fsr_31_23

Frequently Asked Questions

Is sperm quality declining in Indian men?

Yes. A study found a decline in semen quality between 2018 and 2021, with abnormal results about 2.4 times more likely by 2021 than in 2018.

How common is male-factor infertility in India?

It is very common. Among men evaluated for infertility, about 72% had at least one abnormal semen parameter, meaning male factors contribute to roughly three of every four couples' difficulties.

What causes declining or poor sperm quality?

The likely causes include environmental, dietary, lifestyle, and socioeconomic factors. The study noted these influences vary by region, which may explain differences in sperm quality across India.

What does a semen analysis test check?

A semen analysis mainly checks sperm count (how many are present), motility (how well they move), and morphology (their size and shape). Together these indicate male fertility potential.

What is azoospermia and how common is it?

Azoospermia means no sperm are found in the semen. In this study it affected about 9% of men overall, ranging from 5.8% in the North zone to 14.2% in the East. *Based on research by Indira IVF published in Fertility Science and Research (2023).*

Disclaimer: Regional azoospermia figures are taken from the study's data table (Table 3); the paper's summary text differs on which zone recorded the lowest rate.

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What percentage of Indian men have abnormal semen parameters?

What is the average sperm count of Indian men?

Which region of India has the highest rate of azoospermia?

How common is male infertility in India?

Is there research on declining sperm count in India?