

## RESEARCH PAPER

# INFERTILITY IN MEN AND WOMEN

*An Integrative Perspective on Reproductive  
Health, Global Statistics and Responsible  
Holistic Wellness Support*

Presented by

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## **ABSTRACT**

Infertility is a globally significant reproductive health condition, affecting an estimated 17.5% of the adult population — roughly one in six people worldwide — across high-, middle- and low-income countries alike, according to the World Health Organization (WHO, 2023). It is clinically defined as the failure to achieve pregnancy after twelve months or more of regular, unprotected intercourse, and affects men and women in broadly comparable proportions.

This paper examines infertility from a holistic wellness perspective while maintaining the primacy of evidence-based diagnosis and appropriate reproductive medical care. It reviews global and regional statistics, the principal male and female contributing factors, diagnostic

evaluation, red-flag presentations, and modern assisted reproductive technologies. The paper proposes the SR VAIDYA Integrative Framework for Infertility Wellness Education, built on early screening of both partners, verified diagnosis, timely referral, individualised lifestyle support and responsible Ayurvedic integration. Ayurvedic and Panchakarma approaches are discussed within clear safety boundaries as complementary wellness measures that must never replace or delay fertility evaluation or evidence-based treatment, including assisted reproductive technology where indicated.

*Keywords: Infertility, Male Infertility, Female Infertility, Reproductive Health, WHO Statistics, Assisted Reproductive Technology, Holistic Wellness, Ayurveda, Panchakarma, Integrative Health.*

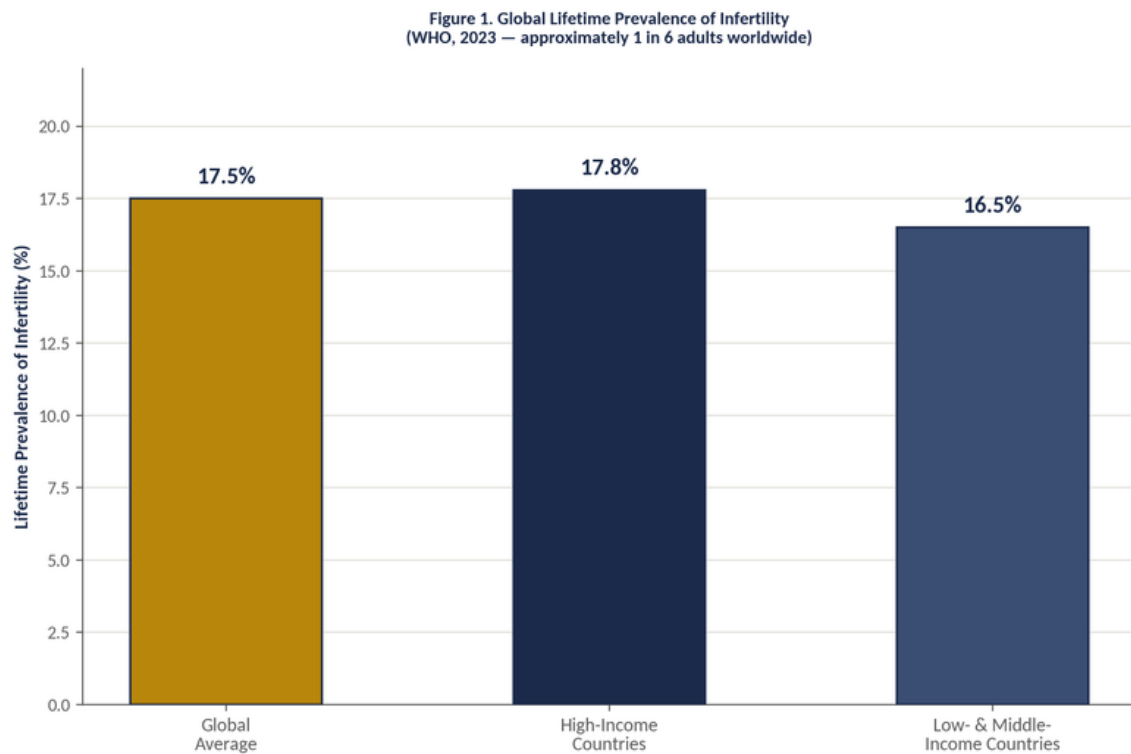
## **1. INTRODUCTION**

Infertility is increasingly recognised as a major global reproductive health challenge rather than a rare or isolated concern. According to the World Health Organization's first comprehensive estimates in a decade, published in 2023, approximately 17.5% of adults — roughly one in six people — experience infertility at some point in their lifetime, with comparable rates across high-income (17.8%) and low- and middle-income countries (16.5%) (WHO, 2023).

The term “infertility” is often discussed publicly as though it were primarily a female health issue. Scientific and clinical evidence does not support this assumption: contributing factors are distributed across both partners, and a responsible evaluation always considers male and female reproductive health together.

## **2. GLOBAL AND REGIONAL STATISTICS**

Reliable statistics are essential to appropriately scale awareness, clinical services and research investment. The WHO's 2023 report synthesised 133 studies spanning 1990 to 2021 to produce the most robust global prevalence estimates currently available (WHO, 2023).



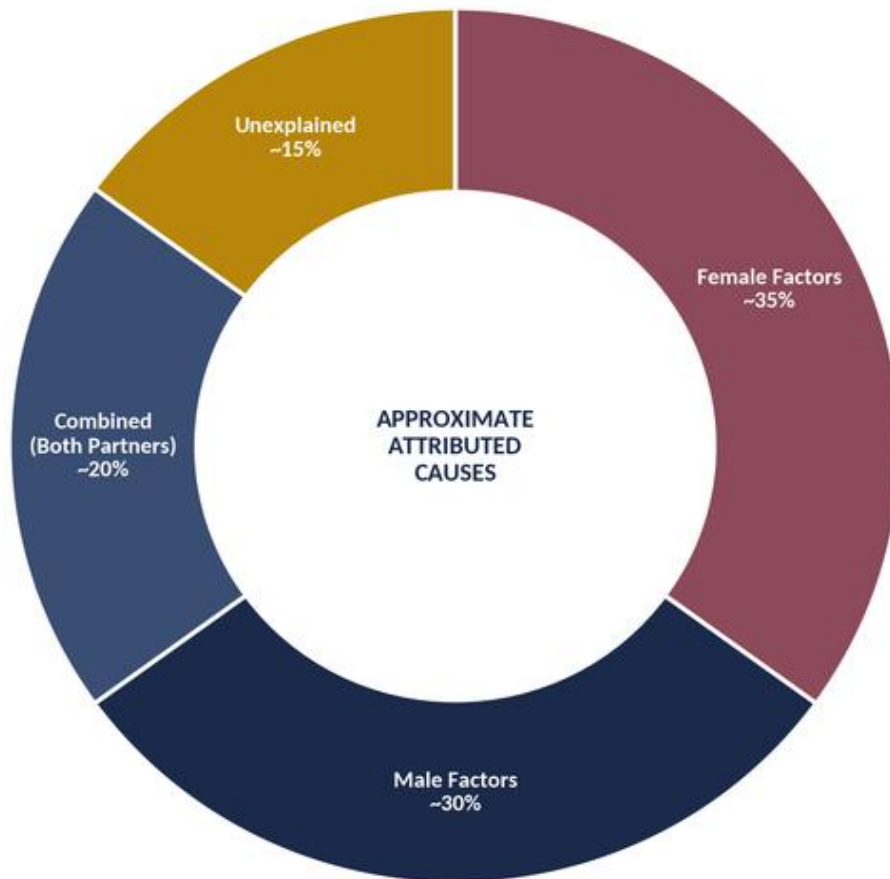
*Figure 1. Global Lifetime Prevalence of Infertility (WHO, 2023 — approximately 1 in 6 adults worldwide)*

The limited variation between income groups is itself a significant finding: it indicates that infertility is not primarily a disease of affluence or of poverty, but a widespread biological and reproductive health condition requiring equitable access to affordable, high-quality fertility care in every setting (WHO, 2023).

### **3. ATTRIBUTED CAUSES: MALE, FEMALE AND COMBINED**

Published clinical series show meaningful variation by population and study design, but consistently confirm that male-factor and female-factor contributions occur at broadly comparable rates, with a substantial share of combined and unexplained cases.

Figure 2. Approximate Distribution of Attributed Causes of Infertility  
(Illustrative pooled ranges from published clinical literature)



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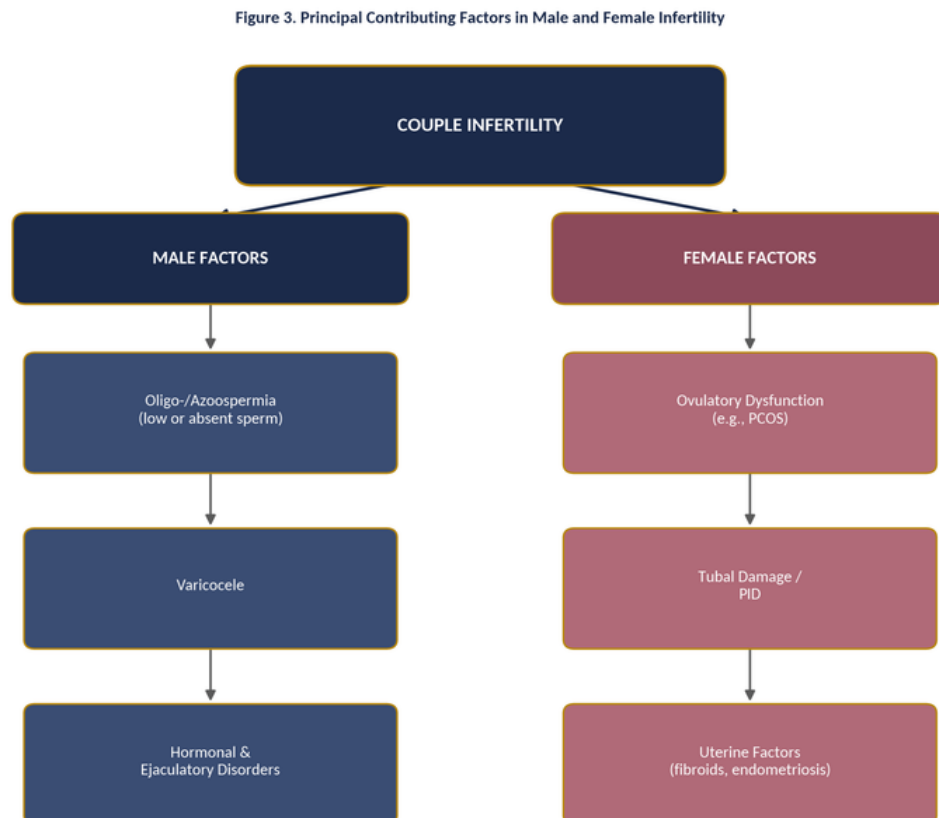
These figures are illustrative midpoints drawn from multiple published cohorts rather than a single universal ratio; individual clinical settings report female-factor rates as low as 20% and as

high as 54%, and male-factor rates from roughly 15% to over 50%, depending on population, referral pattern and diagnostic thoroughness. The consistent clinical message is that both partners require evaluation.

#### **4. PRINCIPAL CONTRIBUTING FACTORS**

Male infertility most commonly involves abnormalities of semen production or sperm transport, including oligozoospermia (low sperm count), azoospermia (absent sperm), asthenozoospermia (reduced motility) and varicocele, alongside hormonal and ejaculatory disorders. Female infertility most commonly involves ovulatory dysfunction (including polycystic ovary syndrome), tubal damage from

infection or pelvic inflammatory disease, and uterine or peritoneal disorders such as endometriosis and fibroids.



Approximately 20–30% of cases involve contributing factors in both partners, and 10–25% remain unexplained after standard evaluation — underscoring the need for coordinated assessment of both partners rather than a female-only work-up.

*Figure 3. Principal Contributing Factors in Male and Female Infertility*

## 5. DIAGNOSTIC EVALUATION

A responsible fertility evaluation begins with a structured assessment of both partners rather than an isolated female-focused work-up.

| Assessment                                             | Partner | Purpose                                         |
|--------------------------------------------------------|---------|-------------------------------------------------|
| Semen Analysis                                         | Male    | Sperm count, motility, morphology, volume       |
| Hormonal Panel (FSH, LH, Testosterone, Prolactin, TSH) | Both    | Identifies endocrine causes of infertility      |
| Ovulation Tracking / Mid-Luteal Progesterone           | Female  | Confirms ovulatory status and cycle regularity  |
| Hysterosalpingography (HSG) / Sonohysterography        | Female  | Assesses tubal patency and uterine cavity       |
| Ovarian Reserve Testing (AMH, Antral Follicle Count)   | Female  | Estimates remaining egg supply, informs timing  |
| Scrotal / Pelvic Ultrasound                            | Both    | Identifies varicocele, structural abnormalities |

No single test should be interpreted in isolation, and evaluation should proceed for both partners in parallel wherever possible, rather than sequentially, to avoid unnecessary delay — particularly relevant given the well-established decline in female fertility with advancing age.

## **6. RED FLAG PRESENTATIONS**

### **WARRANTING PROMPT REFERRAL**

- Female age 35 or above with 6 months of unsuccessful attempts to conceive, or age 40 and above at any duration — warrants immediate specialist referral given time-sensitive ovarian reserve decline.
- Absent or highly irregular menstrual cycles, suggestive of anovulation or significant endocrine disturbance.
- Known or suspected tubal disease, prior pelvic surgery, or history of pelvic inflammatory disease.

- Severe oligozoospermia or azoospermia on semen analysis, or history of undescended testis, testicular trauma or chemotherapy exposure.
- Recurrent pregnancy loss (two or more consecutive miscarriages), which requires dedicated medical evaluation distinct from primary infertility work-up.

## **7. MODERN MANAGEMENT OF INFERTILITY**

Management is individualised based on identified cause, duration of infertility, female age, ovarian reserve and prior treatment history.

- Lifestyle and Timed Intercourse: Appropriate for selected couples with mild or unexplained findings and adequate ovarian reserve.

- Ovulation Induction: Medications such as clomiphene citrate or letrozole for anovulatory infertility.
- Intrauterine Insemination (IUI): For mild male-factor infertility, cervical factor or unexplained infertility.
- In Vitro Fertilisation (IVF) / Intracytoplasmic Sperm Injection (ICSI): For tubal disease, significant male-factor infertility, or failed conservative treatment.
- Surgical Management: Includes varicocelectomy, tubal surgery, or laparoscopic treatment of endometriosis in selected cases.

## **8. THE METABOLIC AND LIFESTYLE CONNECTION**

Obesity, insulin resistance, smoking, excessive alcohol intake, chronic stress, sleep disturbance and certain occupational and environmental exposures have been associated with reduced

fertility in both men and women. The relationship is complex and multifactorial, and should not be interpreted as proving that lifestyle factors alone explain any individual couple's infertility, given the substantial contribution of age, genetics and structural pathology.

A holistic assessment may therefore include attention to body weight, sleep quality, stress levels, physical activity and substance use, alongside targeted reproductive investigations.

## **9. AYURVEDIC AND HOLISTIC WELLNESS PERSPECTIVE**

Ayurvedic literature describes infertility (Vandhyatva) as arising from imbalance across Shukra Dhatu (reproductive tissue), Artava

(female reproductive function) and the broader Dosha constitution, with traditional emphasis on Ahara (diet), Vihara (lifestyle), Rasayana (rejuvenation) and mental balance as supportive measures.

Responsible holistic integration means that Ayurvedic dietary science, stress management, sleep hygiene and rejuvenative practices may complement conventional fertility care by supporting general reproductive wellbeing — but must never be presented as a substitute for verified diagnosis, timely referral, or evidence-based treatment including ovulation induction, IUI, IVF or ICSI where clinically indicated.

## **10. PANCHAKARMA: THE NEED FOR RESPONSIBLE INTEGRATION**

Panchakarma represents an important therapeutic system within Ayurveda. Its consideration in individuals experiencing infertility requires careful assessment of diagnosis, age, ovarian reserve, pelvic pathology, general health and any planned or ongoing assisted reproductive treatment, given the physiological demands and timing sensitivity involved.

Within appropriately supervised settings, general categories such as structured Ahara-based dietary correction, stress-reduction practices and mild, individualised Basti or Uttarabasti protocols have been discussed in traditional literature as supportive measures for reproductive wellbeing. Any such intervention requires practitioner-level clinical judgement, is contraindicated during active pelvic infection, immediately around egg

retrieval or embryo transfer, or in the presence of significant structural pathology, and must be carefully sequenced around — never in place of — fertility-specialist care.

Panchakarma should not be promoted as a treatment for tubal blockage, azoospermia, premature ovarian insufficiency or as a substitute for time-sensitive assisted reproductive technology, particularly in couples with advanced female age.

## **11. THE SR VAIDYA HOLISTIC WELLNESS FRAMEWORK**

The following integrative framework is proposed for responsible holistic wellness education in infertility care, structured around the Institute's

name to support ease of recall among practitioners and couples alike.



Figure 4. The SR VAIDYA Integrative Framework for Infertility Wellness Education (S-R-V-A-I-D-Y-A)

## **12. ROOT-FACTOR ANALYSIS: A SCIENTIFICALLY RESPONSIBLE APPROACH**

Infertility does not arise from a single root cause. A more scientifically defensible concept is Root-Factor Analysis, which identifies multiple biological, anatomical, hormonal, lifestyle, environmental, psychological and medical factors contributing to a couple's overall reproductive health and treatment response.

Figure 5. Root-Factor Analysis Wheel for Infertility  
(Multidimensional Contributing Domains, Both Partners)



*Figure 5. Root-Factor Analysis Wheel for Infertility (Multidimensional Contributing Domains, Both Partners)*

## 13. EVIDENCE GRADING OF KEY CLAIMS

In keeping with the Institute's evidence-grading standard, the principal claims discussed in this paper are graded below as Strong, Moderate or

Weak, reflecting the current weight of peer-reviewed evidence.

| Claim                                                                                    | Evidence Grade     | Basis                                                                  |
|------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------|
| Global lifetime infertility prevalence is approximately 17.5% (1 in 6 adults)            | Strong             | WHO systematic review of 133 studies, 1990–2021 (WHO, 2023)            |
| Female age above 35 is associated with declining fertility and ovarian reserve           | Strong             | Extensive reproductive endocrinology literature                        |
| Semen analysis is a validated first-line test for male-factor infertility                | Strong             | International clinical consensus (WHO laboratory manual)               |
| Weight optimisation and reduced stress improve fertility outcomes as adjunctive measures | Moderate           | Observational and some randomised data; effect sizes vary              |
| Specific Ayurvedic herbal formulations improve conception rates comparably to ART        | Weak               | Limited, heterogeneous trials; insufficient for treatment substitution |
| Panchakarma alone reverses tubal blockage or azoospermia                                 | Weak / Unsupported | No robust controlled evidence; contraindicated as sole therapy         |

## 14. DISCUSSION

The future of infertility care increasingly requires integration without exaggeration. Conventional reproductive medicine provides diagnostic precision, pharmacological ovulation induction, surgical correction and assisted reproductive technology. Holistic wellness can contribute through lifestyle education, stress management, sleep improvement, weight management and patient empowerment for both partners.

A successful integrative model should therefore be evidence-aware, couple-centred, safety-oriented, referral-conscious, lifestyle-focused and individualised — consistent with the approach adopted throughout this paper.

## 15. PROPOSED CONFERENCE

### RECOMMENDATIONS

- Recommendation 1: Encourage simultaneous evaluation of both partners rather than a female-only initial work-up.
- Recommendation 2: Train wellness practitioners to recognise red-flag presentations, especially advanced maternal age, requiring urgent referral.
- Recommendation 3: Focus lifestyle interventions on modifiable metabolic and psychological health rather than claiming to cure structural or age-related infertility.
- Recommendation 4: Use validated diagnostic pathways (semen analysis, hormonal panel, imaging, ovarian reserve testing) for both partners.
- Recommendation 5: Individualise Ayurvedic and Panchakarma interventions and never delay time-sensitive fertility treatment, including ART.

- Recommendation 6: Conduct ethically designed observational and controlled studies of integrative wellness approaches as adjuncts to ART.
- Recommendation 7: Study quality of life, stress, sleep and treatment adherence outcomes without unsupported conception or cure claims.

## **16. FUTURE RESEARCH PROPOSAL FOR SR VAIDYA HOLISTIC WELLNESS RESEARCH INSTITUTE**

**Proposed Title: “Effect of a Structured Holistic Lifestyle and Stress-Management Programme on Quality of Life and Treatment Adherence in Couples Undergoing Standard Fertility Care.”**

Study Type: Prospective observational study or pilot randomised controlled study.

Participants: Couples with confirmed infertility diagnosis under active reproductive-medicine

management, target sample size 100–130 couples across two fertility centres.

**Standard Care:** Participants continue prescribed reproductive-medicine management (ovulation induction, IUI, IVF/ICSI as indicated) throughout the study.

**Holistic Components:** Structured dietary counselling, stress-management practices, sleep hygiene and appropriate yoga-based wellness practices for both partners, delivered within professional scope over a 12-week intervention period.

**Primary Endpoint:** Change in validated quality-of-life and fertility-related stress score at 12 weeks.

**Secondary Endpoints:** treatment adherence, sleep quality, body weight and self-reported physical activity.

**Important Principle:** The study should investigate whether a structured holistic lifestyle programme

improves quality of life, stress and adherence as an adjunct to standard fertility care, rather than claiming to cure infertility or replace ART.

## **17. CONCLUSION**

Infertility is a common, globally distributed reproductive health condition affecting men and women in broadly comparable proportions. The relationship between age, hormonal function, structural pathology, lifestyle and psychological wellbeing requires both precise medical management and sustained holistic support for both partners.

**SCREEN → VERIFY → REFER → SUPPORT →  
FOLLOW UP**

Holistic wellness has an important role in promoting healthy lifestyle behaviours, stress

management, sleep quality and patient awareness for couples experiencing infertility. However, responsible integration requires clear boundaries.

**MEDICAL DIAGNOSIS PROVIDES CLARITY.**

**LIFESTYLE PROVIDES FOUNDATION. HOLISTIC**

**WELLNESS PROVIDES SUPPORT. RESPONSIBLE**

**REFERRAL PROVIDES SAFETY.**

## **ACKNOWLEDGEMENT**

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