Zinc
Supplementation in men with low zinc status is often successful for male infertility; Deficiency lowers testosterone & reduces sperm count.\(^{33,34,35}\)

Selenium
Required for sperm maturation; Protects lipid shell encasing each sperm (prevents lipid peroxidation), which is especially important since sperm have a very delicate fatty acid composition.\(^{30,31,32}\)

Carnitine
Cofactor to the enzyme (glutathione peroxidase) that ensures structural integrity of sperm; Deficiency compromises sperm motility.\(^{1,2,3}\)

Vitamin A
Regulates genes that control sperm production (spermatogenesis); Deficiency may lower sperm count.\(^{6,7,8}\)

Vitamin D
Increases sperm motility; Induces acrosome reaction, a process where a sperm releases enzymes to allow fusion with an egg; Men with low vitamin D may have slower sperm.\(^{9,10}\)

Vitamin C
Low levels increase damage to sperm's genetic material; Supplementation improved sperm count, motility and structure in human trials.\(^{11,12,13}\)

Vitamin E
Protects sensitive sperm cell membranes; Enhances sperm's ability to penetrate an egg.\(^{14,15}\)

Vitamin B12
Needed for cellular replication, including spermatogenesis; B12 moves from blood to semen to assist in sperm production; May increase sperm count.\(^{16,17,18,19}\)

Additional nutrients affect male fertility. This list is non-exhaustive.
REFERENCES


