

Female Fertility

Folate

Protects genes during rapid cell division which increases likelihood of a healthy embryo (via methylation of DNA); Deficiency raises homocysteine which damages reproductive cells.^{1,2,3,4}

Vitamin B₆ & B₁₂

Both are needed to convert toxic homocysteine to a benign form; Low homocysteine levels linked to a better chance of pregnancy.^{5,6,7,8}

Vitamin C

Increases serum progesterone levels; Induces ovulation in some women; Enhances effect of the fertility drug clomiphene.^{9,10,11,12}

Minerals

Several enzymes needed to protect a woman's reproductive organs (such as superoxide dismutase) are dependent on the trace elements **zinc, copper and magnesium.**

^{22,30,31,32}

Vitamin D

Higher levels linked to better success rates of IVF (in vitro fertilization); Influences production of the sex hormones estradiol and progesterone.^{13,14,15}

Antioxidant Status

Reproductive cells, including embryos, are very susceptible to damage from oxidative stress due to the rapid rate of growth; Low antioxidant status can cause infertility or miscarriage.^{19,22,28,29}

Vitamin E

Protects reproductive cells (follicles); May improve endometrial response (ability of fertilized egg to implant into uterine wall properly) during IVF.^{16,17,18,19}

Cysteine

N-acetyl cysteine can improve ovulation and pregnancy rates in women with infertility due to PCOS (polycystic ovary syndrome) that do not respond to fertility drugs; Improves viability of endometrial cells in vitro; Precursor to glutathione.^{25,26,27}

Glutathione

Protects eggs (fertilized or not) from damage by reactive oxygen species; Protective action of follicle stimulating hormone on embryonic development is due largely to glutathione synthesis.^{22,23,24}

Selenium

Deficiency implicated in miscarriage and infertility; In one trial, 100% of infertile women achieved pregnancy after supplementation.^{20,21}

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