Female Fertility

**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

**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

**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

**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 B_{6} & B_{12}**
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

**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

**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

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