



# Nutritional Therapy Involved in Protection of Reproductive Health and Fertility in Women

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## DESCRIPTION

Fertility and reproductive health are influenced by many factors, such as genetics, hormones, age, lifestyle, and environmental exposures. However, nutrition is also a key factor that can affect the ability to conceive and maintain a healthy pregnancy. Nutritional therapy is the use of dietary interventions and supplements to optimize fertility and reproductive health. Nutritional therapy can be beneficial for both men and women who are making an effort conceive naturally or with Assisted Reproductive Technologies (ART), such as *In Vitro* Fertilization (IVF) or Intrauterine Insemination (IUI). For women, nutritional therapy can help support ovulation, implantation, and embryo development. Some of the nutrients that are important for female fertility are:

- Folic acid is a B vitamin that is essential for DNA synthesis and cell division. Folic acid can prevent neural tube defects in the developing fetus, such as spina bifida. Folic acid can also improve ovulation and implantation rates. The Recommended Dietary Allowance (RDA) of folic acid for women of childbearing age is 400 Micrograms (mcg) per day, but it may be increased to 600 mcg per day during pregnancy. Folic acid can be found in fortified cereals, breads, and grains, as well as leafy green vegetables, beans, nuts, and citrus fruits. Folic acid supplements are also widely available and often included in prenatal vitamins.
- Vitamin B12 is another B vitamin that is involved in DNA synthesis and cell division. Vitamin B12 can prevent anemia and support the development of the nervous system in the fetus. Vitamin B12 can also enhance ovulation and implantation rates. The RDA of vitamin B12 for women of childbearing age is 2.4 mcg per day, but it may be increased to 2.6 mcg per day during pregnancy. Vitamin B12 can be found in animal products, such as meat, poultry, fish, eggs, and dairy products. Vitamin B12 supplements are also available and often included in prenatal vitamins.

- Omega-3 fatty acids are polyunsaturated fats that have anti-inflammatory and antioxidant properties. Omega-3 fatty acids can improve blood flow to the reproductive organs, reduce oxidative stress, and modulate hormone levels. Omega-3 fatty acids can also support fetal brain and eye development. The RDA of omega-3 fatty acids for women of childbearing age is 1.1 grams (g) per day, but it may be increased to 1.4 g per day during pregnancy. Omega-3 fatty acids can be found in fatty fish, such as salmon, tuna, and mackerel, as well as flaxseeds, walnuts, chia seeds, and soybeans. Omega-3 fatty acid supplements are also available and often recommended for pregnant women.

For men, nutritional therapy can help improve semen quality, which is a measure of sperm count, motility, morphology, and DNA integrity. Semen quality can affect the chances of fertilizing an egg and producing a healthy embryo. Some of the nutrients that are important for male fertility are:

- Antioxidants are substances that can protect the cells from oxidative damage caused by free radicals. Oxidative stress can impair sperm function and DNA integrity. Antioxidants can scavenge free radicals and prevent oxidative damage. Some examples of antioxidants are vitamin C, vitamin E, selenium, zinc, l-carnitine, and coenzyme Q10. Antioxidants can be found in fruits, vegetables, nuts, seeds, and whole grains. Antioxidant supplements are also available and may be beneficial for men with low semen quality.
- Healthy diets are those that are rich in fruits, vegetables, whole grains, legumes, nuts, seeds, and lean proteins. Healthy diets can provide a variety of vitamins, minerals, antioxidants, and phytochemicals that can enhance semen quality and male fertility. Healthy diets can also help maintain a healthy body weight, which can affect hormone balance, testosterone production, and sperm production. Some examples of healthy diets are the Mediterranean diet, the DASH diet, and the fertility diet.

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## CONCLUSION

Nutritional therapy is a potential approach to optimize fertility and reproductive health for both men and women. It can involve dietary modifications and supplements that can provide key nutrients for ovulation, implantation, embryo development, semen quality, and hormonal balance. It can be advantageous

for couples attempting natural conception or utilizing assisted reproductive technologies. However, nutritional therapy should be individualized and customized to the specific needs and goals of each couple. Consulting a registered dietitian nutritionist or a fertility specialist can help determine the best nutritional therapy plan for each case.