

Preconception prevention of hereditary diseases and defects

Planned parenthood - it is not only about planning the number and time of birth of offspring, but also about creating conditions for their healthy development. The following principles apply here.

Protection against mutagens

- Until the implementation of the reproductive plan;
- do not postpone reproduction for too long, '*with age* the risk of mutations increases:
 - in women, the risk of **impairment of the fetus by chromosomal aberrations**;
 - in men by **point mutations**'.

Protection against teratogens

- During pregnancy;
- organogenesis begins in the 5th week after the last menses, i.e. in the 3rd week after fertilization; histogenesis continues until the end of pregnancy.
- teratogenic effects include:
 1. **infection** (Toxoplasma, Rubella, Cytomegalovirus, Herpesvirus);
 2. **chemical substances** - alcohol, some medicines, drugs, etc.;
 3. **ionizing radiation** - up to therapeutic doses are highly teratogenic.

Favorable health condition of the mother

- The mother's organism forms the environment for the development of the fetus throughout the pregnancy.
- Maternal illnesses and their treatment can seriously endanger the development of the fetus.

Gynecological examination and correction of all detected deviations

- Gynecological preconception care reduces the risk of spontaneous abortions, polygenically inherited defects and congenital defects caused by *de novo* chromosomal mutations.

Vitamin Screen

- Administration of folic acid (5–10 mg/day) and vitamin C (500 mg/day) in the preconception period has a proven beneficial effect on fetal development.
- Vitamin C = antioxidant (prevention of mutations and teratogenesis); folic acid = coenzyme in the DNA repair enzyme system.

Links

Related Articles

- Postnatal prevention of hereditary diseases
- Prenatal diagnosis
- Congenital developmental defects
- Teratogens

External links

- Think of me in time - VVV primary prevention program (<http://www.slg.cz/primarni-prevention-vrozenych-vyvojovy-ch-vad>)

Source

ŠTEFÁNEK, Jiří. Medicine, diseases, 1. LF UK [online]. [cit. 11. 2. 2010]. <<http://www.stefajir.cz>>.