

Abstract

Review Paper

Diabetes Mellitus and Influences on Human Fertility

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Abstract

Background: Diabetes mellitus (DM) is a chronic, lifelong condition, while infertility is the disability to attain a pregnancy. They are directly connected to each other owing to the impact of this metabolic disease in humans' reproductive function.

Objective (Aim): This study aims to draw the attention of diabetes mellitus, both type 1 and type 2, in males and females in relationship to infertility.

Methodology: Extensive literature search in the electronic database "Pubmed", "Google Scholar", the website of "World Health Organization" (WHO) and Control Disease and Prevention (CDC) took place. There was no time restriction. A key criterion for the selection of articles was English and Greek language. Finally, forty one articles were included in the review and fifteen other were excluded because of their language or the irrelevant main idea.

Results: Diabetes mellitus cause increased damage in levels of nuclear DNA (nDNA) and mitochondrial DNA (mtDNA) in males. As a result, the sperm DNA is affected, as well, leading to lower levels of fecundity and influencing reproductive health in general. Sexual dysfunction, libido dissociations, even varicocele are strongly associated with DM, as well. Diabetic women have problems of the fallopian tubes, ovaries, uterus and menstrual disorders. Lastly, respecting type 2 DM, it strongly affects renal physiology in men and it is mainly responsible for ovulation disorders and tubal obstruction in women.

Conclusions: Given the fact that diabetes mellitus strongly affects human' reproductive system, it is high time couples were informed about risk factors which contribute to the presence of infertility. Moreover, counseling support would be auxiliary, while the Assisted Reproduction is the alternative for infertile people, as well.

Key Words: diabetes mellitus, IDDM, NDDM, infertility, reproductive function.