



## THE EFFECT OF HEALTHY DIETARY PATTERNS ON MALE SEMEN QUALITY: A SYSTEMATIC REVIEW AND META-ANALYSIS.

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Asian journal of andrology. 2022;24(5):549-557  
With Expert Review from [Michelle Barrow](#)

Infertility has been identified by the World Health Organization as a worldwide problem. The analysis of semen quality is key in assessing male fertility. The aim of this study was to explore the effect of healthy dietary patterns on male semen quality. This study is a systematic review and meta-analysis of six articles. The six articles were cross-sectional studies involving 1244 subjects, from which 708 subjects with the lowest and highest adherence to a healthy dietary pattern were included in the meta-analysis. Healthy dietary patterns meant the Mediterranean diet for 4 out of 6 studies. All healthy diet patterns were determined by the authors to be rich in plant-based foods, where saturated fats provide only a small percentage of the total energy intake. Results show that the sperm concentration, progressive sperm motility, and total sperm count were significantly higher in the group with high consumption of a healthy dietary pattern than those in the group with low consumption; however, there wasn't a clear relationship between normal sperm morphology, total sperm motility, and semen volume. Authors concluded that healthy dietary patterns may promote male reproductive health and thus improve semen quality in the population.

## COMPARISON OF L-CARNITINE VS. COQ10 AND VITAMIN E FOR IDIOPATHIC MALE INFERTILITY: A RANDOMIZED CONTROLLED TRIAL.

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The World Health Organization (WHO) defines infertility as the inability to conceive after more than one year of regular unprotected intercourse. Male infertility has several different causes, ranging from genetic alterations to lifestyle choices to general medical diseases, medications, or even drugs.

The aim of this study was to compare the efficacy of L-carnitine versus co-enzyme Q10 (CoQ10) and Vitamin E in improving outcomes in patients with idiopathic male infertility (asthenozoospermia [reduced sperm motility] or teratozoospermia [abnormal sperm morphology]).

Results showed that after three months of treatment, L-carnitine significantly improved sperm motility, morphology, and concentration. It also improved testosterone and luteinizing hormone levels. CoQ10 and Vitamin E improved only sperm motility, morphology, and testosterone levels. It was concluded therefore that L-carnitine may be superior to the combination of CoQ10 and Vitamin E in improving sperm parameters. Authors conclude that future studies should examine clinical pregnancy rates in order to strengthen and warrant their findings.



## THE IMPACT OF DIABETES MELLITUS TYPE 1 ON MALE FERTILITY: SYSTEMATIC REVIEW AND META-ANALYSIS.

Facondo, P ; Di Lodovico, E ; Delbarba, A ; et al.  
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The relationship between type 2 diabetes mellitus and male hypogonadism is well known, whereas the impact of type 1 diabetes mellitus (DM1) on male fertility and testis functions has been less studied. The aim of this study was to systematically review and discuss the available evidence evaluating paternity rate, male gonadal axis, and sperm parameters in men with DM1.

This study is a systematic review and meta-analysis of fourteen studies. Results show: - reduced fertility potential in patients with DM1, as they have a lower number of children compared with unaffected population. In fact, the rate of children is statistically significantly lower among men who had been diagnosed with DM1 at an earlier age, according to a longer duration of the disease. - that men with DM1, compared with controls, have significantly lower normal sperm morphology, progressive motility and a trend toward a reduced semen volume, without difference in total sperm count and concentration. Authors conclude that DM1 might impair reproductive health at different levels, including functional sperm alterations definitively leading to reduced fertility rate in these patients.



## EFFECTIVENESS OF EXERCISE TRAINING ON MALE FACTOR INFERTILITY: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS.

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Male factor infertility is characterised by the existence of suboptimal sperm parameters in the male partner of childbearing age and is presently defined as the inability to conceive a child with frequent and unprotected sexual intercourse in the fertile phase of the menstrual cycles for a year or longer. The main aim of this study was to evaluate the effectiveness of 1 or more of the selected types of exercise interventions (moderate-intensity continuous training (MICT), resistance training (RT), combined aerobic and resistance training (CET), high-intensity continuous training (HICT), and high-intensity interval training (HIIT)) in the prevention and treatment of male factor infertility. This study is a systematic review and meta-analysis of seven randomised controlled trials representing 18 groups (11 exercise, 7 non-intervention control [NON-EX]) and 2641 participants and/or patients (1429 exercise, 1212 NON-EX). Results show that in the setting of couples with male factor infertility, when compared with the NON-EX group, selected types of exercise interventions improved the relative risk of pregnancy rate in the following order: CET > MICT > RT > HICT > HIIT. The top-ranking interventions for live birth rate were for MICT, RT, HIIT, CET, and HICT. In addition, the interventions with the highest probability of being the best approach out of all available options in improving semen quality parameters were for CET, MICT, HICT, RT, and HIIT. Authors conclude that when clinicians are formulating clinical recommendations for preventing and treating male factor infertility, the findings of this study should be considered.

