Primary Prevention of Sexual Dysfunction With Mediterranean Diet in Type 2 Diabetes: The M`EDITA Randomized Trial

Type 2 diabetes has been associated with sexual dysfunction in men and women (1). Erectile dysfunction (ED) is a marker of significantly increased risk of cardiovascular disease and all-cause mortality in men with diabetes and the general population; however, no data support a clear role for female sexual dysfunction (FSD) as a predictor of future cardiovascular events in women with diabetes.

There is some evidence from clinical trials that sexual dysfunction is amenable to amelioration with interventions based on diet and lifestyle modification in men and women (2). Using the data of the MEDITerranean Diet and Type 2 diAbetes (M`EDITA) randomized trial (3), we investigated the long-term effect of Mediterranean diet on incident ED and FSD in people with type 2 diabetes and 2) combined incidence of sexual dysfunction (men or women) with worsening of sexual function in those participants with sexual dysfunction at baseline.

Participants in the two-arm, single-center M`EDITA trial were randomly assigned to a Mediterranean diet (n = 108) or a low-fat diet (n = 107), with a total follow-up of 8.1 years. Sexual function was evaluated by completing the validated self-reported questionnaires International Index of Erectile Function (IIEF) and Female Sexual Function Index (FSFI) at baseline, before randomization, and every 6 months. Survival curves were estimated by the product-limit method of Kaplan-Meier for the two groups (Mediterranean diet and low-fat diet) and compared by the log-rank statistic.

There was no difference in baseline sexual function in men (n = 54 vs. 52; P = 0.287) or women (n = 54 vs. 55; P = 0.815) randomized to Mediterranean diet or low-fat diet, respectively. Over the entire follow-up, the incidence of the primary outcome was significantly lower in the Mediterranean diet group compared with the low-fat diet group (ED: hazard ratio 0.44 [95% CI 0.19–1.00], P = 0.045 [Fig. 1A]; FSD hazard ratio 0.44 [0.19–1.00], P = 0.048 [Fig. 1B]). Similarly, the incidence of the secondary outcome was also lower in the Mediterranean diet group (new ED and deterioration of preexisting ED: hazard ratio 0.41 [0.21–0.83], P = 0.011 [Fig. 1C]; new FSD and deterioration of pre-existing FSD: 0.50 [0.25–0.99], P = 0.045 [Fig. 1D]). Compared with participants assigned to the low-fat diet, participants assigned to Mediterranean diet showed greater reduction in weight (−0.98 kg) over the entire follow-up. In the analyses that adjusted for change in body weight, HbA1c, or depressive symptoms, the hazard ratios (95% CI) were 0.48 (0.20–0.99), 0.47 (0.19–0.99), and 0.49 (0.23–0.99), respectively.

The current study is the first long-term dietary trial demonstrating that the Mediterranean diet conferred benefit on both prevention (56% relative risk reduction) and deterioration of sexual dysfunction in both men and women with newly diagnosed type 2 diabetes. In adults with type 2 diabetes, a Mediterranean-style dietary pattern may improve the inflammatory milieu and cardiovascular risk (4), both these effects being beneficial to achieving improvement of sexual dysfunction in people with diabetes (5). Although the evaluation of sexual function was not planned in the original study protocol, both primary and secondary outcomes were similar, suggesting that the results were robust.

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References