

# Influence of Diet on Development of Fibroids and Endometriosis, Analysis of the National Health and Nutrition Examination Survey

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Introduction: Endometriosis and uterine fibroids are common gynecologic conditions present in reproductive aged women. Hormonal stimulation, vascular neovascularization and inflammation are common factors contributing to the pathophysiology of both conditions. As these may be influenced by dietary habits, it would be of interest to determine if one's diet is influential on development of endometriosis and fibroids. The objectives of this study were to explore the association between dietary habits and presence of endometriosis and fibroids.

Methods: Data were collected from the National Health and Nutrition Examination Survey (NHANES) survey, administered in the US from 1999 to 2005. Diagnosis of endometriosis and fibroids were self-reported. Nutrition data was gathered based on daily food frequency questionnaires. Macronutrient intake variables (total energy, fat, protein, fiber, and carbohydrate) were distributed in quartiles for the analysis. Multinomial logistic regression analyses was performed to assess the relationship nutritional intake and diagnosis of endometriosis or fibroids, adjusted for age, BMI, race, OCP use, smoking, and gravidity status.

Results: Complete case analysis was available for 4, 153 in the database. There were 288 (prevalence 6.93%) women who reported a diagnosis of endometriosis and 522 (prevalence 12.57%) reported a diagnosis of fibroids. Upon analysis of nutritional trends, increased consumption of fiber is associated with a decreased odds of endometriosis, with OR 0.63 (95%CI: 0.43 0.92 quartile 4 compared to quartile 1. Increased consumption of fat is associated with increased odds of fibroids, with OR 1.39 (95% CI 1.02-1.91) for quartile 2 compared to quartile 1, OR1.57 (95%CI 1.15 -2.13) for quartile 3 compared to quartile 1 and OR 1.39 (95%CI 1.03 -1.89) for quartile 4 compared to quartile 1.

Conclusion: Our study suggests a link between dietary habits and presence of two common gynecological, hormone dependent conditions – endometriosis and fibroids. In particular, we suggest that the relationship between fat intake and fibroids should be further explored.

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Keywords : endometriosis, fibroids, diet

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