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P-360 The effect of dietary interventions, or no intervention, on Pain and Quality of Life in women diagnosed with Endometriosis

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Study question: Explore the influence of a dietary intervention, the Low FODMAP diet or endometriosis diet, on endometriosis-related pain and thereby Quality of Life.

Summary answer: After adhering to a dietary intervention for six months, women reported less pain and better Quality of Life (QoL).

What is known already: Standard endometriosis treatment, hormonal therapy, surgery and/or pain management, can be insufficient in treating endometriosis or may be accompanied with unacceptable side effects. Therefore, there is an increasing interest among endometriosis patients in the application of self-management strategies. The Low FODMAP diet has previously been studied and found effective in reducing pain symptoms in endometriosis patients. Guidelines for the Low FODMAP diet have been developed. Limited studies are available on the efficacy of the endometriosis diet. A survey study recently found that it was effective in improving QoL. Currently no guidelines on the implementation of the endometriosis diet exist.

Study design, size, duration: We performed a prospective pilot study. Women could choose between adherence to a diet (Low FODMAP diet or endometriosis diet) or no diet. It was aimed to include 60 participants, 20 participants per group. When adhering to a dietary intervention, women received extensive guidance by a student dietician for three months. After three months, women were asked to continue the diet independently for another three months. The follow-up period covered six months for all participants.

Participants/materials, setting, methods: Between April 2021 and December 2022, we included women diagnosed with endometriosis, surgically and/or by imaging, and reported VAS pain scores ≥ 3 cm (dysmenorrhea, deep dyspareunia, chronic pelvic pain). Primary endpoint focused on pain reduction (VAS, scale 0-10cm) in the symptoms *dysmenorrhea, deep dyspareunia, chronic pelvic pain, dysuria, tiredness and bloating*. Secondary endpoints focused on QoL measured using the Endometriosis Health Profile (EHP-30) and Gastro-intestinal health measured using the Gastro-Intestinal Quality of Life Index (GIQLI).

Main results and the role of chance: Sixty-two women (22 Low FODMAP diet, 21 Endometriosis diet, 19 control) participated. Women adhering to a diet reported less pain in all symptoms but *dysmenorrhea* (range $p < 0.001$ to $p = 0.012$) and better EHP-30 scores in the domains *pain, powerlessness, emotional wellbeing, self-image, work life and sexual intercourse* (range $p < 0.001$ to $p = 0.023$) after six months dietary adherence. When differentiating between the diets, women adhering to the Low FODMAP diet reported less *dysuria* and *bloating* ($p = 0.015$; $p < 0.001$, resp.) and better scores in the domains *pain, powerlessness* and *work life* ($p = 0.007$; $p = 0.002$; $p = 0.035$, resp.). Women adhering to the endometriosis diet reported less *bloating* and *tiredness* ($p = < 0.001$; $p < 0.001$, resp.) and better scores in the domains *powerlessness, emotional wellbeing* and *self-image* ($p = 0.014$; $p = 0.022$; $p < 0.001$, resp.) after six months dietary adherence. When comparing it to the control group, women adhering to a dietary intervention reported significant less *bloating* ($p = 0.049$), and better scores in the domains *social support, medical profession* and *infertility* (range $p = 0.002$ to $p = 0.035$) at six month' follow-up.

There was a high level of satisfaction with the dietary guidance. Three out of 43 women discontinued adherence to their diet prematurely. Ultimately, 35 out of 43 women wanted to continue their diet (partially) after six months.

Limitations, reasons for caution: No sample size was calculated since efficacy data in literature was lacking. There was no randomization to optimize dietary adherence, possibly resulting in selection bias. Women found it hard to express their pain in VAS; their pain was still present but less frequent.

Wider implications of the findings: Women adhering to a diet reported lower pain scores and better QoL after six months. It could therefore be recommended to endometriosis patients with therapy-resistant pain, wishing to apply self-management strategies. However, caution is implied because data

on long-term effects (>6 months) is lacking and drawing up guidelines is needed.

Trial registration number: W20_534 # 20.593