Reproductive Endocrinology

ODP617

An interdisciplinary intervention improves lifestyle behaviours in women living with obesity and infertility: a randomized controlled trial

Jean-Patrice Baillargeon, Matea Belan, Farrah Jean-Denis, Marie-France Langlois, Anne-Sophie Morisset, and Audrey St-Laurent

Introduction: Lifestyle modifications should be the first-line treatment for improving reproductive function and preconception weight in women living with obesity who are seeking fertility treatments. Evidence is however scarce regarding the effectiveness of lifestyle programs in supporting these women. The study's objective was

therefore to determine whether the Obesity-Fertility program leads to healthier lifestyle behaviours in women living with obesity and consulting at a fertility clinic. **Methods:** Women with obesity and infertility were randomized to the control (CG=65) or intervention (IG=65) group. Based on the participant's medical record, randomization was stratified according to the polycystic ovarian syndrome status. The CG followed the usual fertility clinic approach while the IG participated in individual and group sessions with a registered dietician, a kinesiologist, and a psychologist. Before the intervention (baseline) and 6 months after (V6), frequency of food and beverages intakes, physical activity levels, sedentary time, daily sleep duration, alcohol consumption and smoking use were collected via a lifestyle behaviour questionnaire adapted from the 2009 Canadian Community Health Survey (Statistics Canada). Functional capacity was evaluated with a 6-minute walk test. Descriptive statistics, two-sample tests of means or proportions, generalized linear models and logistic regressions were performed. **Results:** At baseline, women who had a research visit at 6$\pm$1 months (n=85) were 30$\pm$5 years old and had a BMI of 39.8$\pm$7.7 kg/m2. Most of them held no university degree (81.2%) and were primiparous (56.5%). Both groups (CG=43 and IG=42) had similar sociodemographic and anthropometric characteristics as well as lifestyle behaviours at baseline except for smokers' proportion that was higher in CG (CG: 34.9% vs IG: 9.5%, p<0. 01). From baseline to 6 months, whole fruit and vegetable frequency intakes increased more in the IG vs CG (fruits: +1.1 vs +0.4/day, p<0. 01; vegetables: +0.7 vs +0.4/day, p<0. 01). Significant differences (IG vs CG) were also observed for frequency intakes of whole grain products (+1.0 vs +0. 04/day, p<0. 01) and dairy products (+0.5 vs -0.2/day, p<0. 01) as well as in the percentage of active women (>3 kcal/kg/day: +14.2% vs +2.3%, p=0. 03) and the time spent in sedentary behaviours (-6.7 vs -0.1 h/week, p<0. 01). Distance covered during the 6-minute walk test tended to increase more in IG vs CG (+28.8 vs +5.5 metres, p=0. 05). Sleep duration decreased by 19 and 12 minutes per day in the IG and CG, respectively (p=0.25). No significant difference was found between IG and CG for changes in sleep duration, alcohol consumption and smoking use. **Conclusion:** The Obesity-Fertility program significantly improved components of diet, physical activity levels and sedentary behaviours in women living with obesity and seeking fertility treatments. Such programs can therefore support these women to adopt healthier lifestyle behaviours and may improve their fertility as well as decrease risks of complications during pregnancy.

Presentation: Monday, June 13, 2022 12:30 p.m. - 2:30 p.m.