

Improved menstrual function in obese women with polycystic ovary syndrome after behavioral modification intervention - a randomized controlled trial

E Öberg (SE) [1], S Gidlöf (SE) [2], A Lindén Hirschberg (SE) [3]

Context

Lifestyle intervention is the first line treatment in Polycystic Ovary Syndrome (PCOS). However, to our knowledge there are no previous randomized trials comparing lifestyle intervention with no or minimal intervention having reproductive function as a primary outcome.

Objective

To evaluate the effect of a structured behavioral modification intervention on reproductive outcomes in overweight/obese women with PCOS.

Methods

In a randomized controlled trial patients were allocated to behavioral modification intervention or minimal intervention in a 1:1 ratio for comparisons after 4 months treatment. The minimal intervention group received behavioral modification intervention for a further 4 months. All patients were evaluated at 12 months in comparison to baseline.

Patients

68 women aged 18-40 years, with a BMI \geq 27 kg/m², fulfilling all 3 Rotterdam PCOS criteria were included.

Intervention

Behavioral modification intervention consisted of a structured approach aiming to achieve weight loss in order to improve reproductive function. This included regular individual and group meetings with a lifestyle coach and dietician.

Minimal intervention involved general oral and written health advice from a midwife.

Main Outcome Measures

The primary reproductive outcome was improved menstrual regularity defined as a change from amenorrhea to either oligomenorrhea or regular cycles, or from oligomenorrhea to regular cycles during the first 4 months. Secondary reproductive outcome was ovulation, determined by progesterone levels.

Results

The mean weight loss at 4 months compared to baseline for patients in the behavioral modification group was 2.0 kg, $P = .002$ and for the minimal intervention group 0.99 kg $P = .128$. At 12 months the mean weight loss for the whole group was 3.0 kg, $P = .003$ compared to baseline. At 4 months, a higher proportion of patients in the behavioral modification group improved menstrual function compared to the minimal intervention group, 59% vs 24%, $P = .003$. At 12 months, a total of 54% improved their menstrual function. No difference in ovulation was seen between the groups (35% vs 34%) but during

the 12 months study period, 53% of all patients had ovulated.

Conclusion

Although extensive weight loss can be difficult to achieve in obese women with PCOS, behavioral modification intervention can help these patients to improve their menstrual regularity and ovulation, and subsequently improve the chances of spontaneously conceiving.

[1] Karolinska University Hospital, Karolinska Institutet , Stockholm , [2] Karolinska University Hospital, Karolinska Institutet , Stockholm, [3] Karolinska University Hospital, Karolinska Institutet , Stockholm