



## COST- EFFECTIVENESS SCENARIOS FOR LIFESTYLE INTERVENTION PRECEDING INFERTILITY TREATMENT IN OBESE INFERTILE WOMEN

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Context: Obesity leads to lower live birth rates in infertility treatment. Obesity is a cost driver in health care. In the LIFEstyle RCT we have shown that a 6-month lifestyle intervention in obese infertile women preceding infertility treatment did not increase the rates of vaginal birth of healthy singletons at term. Difference disappeared during longer follow up, higher rates of natural conceptions shown in the intervention arm. Objective: we aim to investigate the cost-effectiveness of lifestyle intervention preceding infertility treatment in obese infertile women. Patients: Infertile women between 18 and 39 years of age with a BMI > 29 kg/m<sup>2</sup>. Intervention: The 6-month lifestyle intervention consisted of an energy-restricted diet, an increase in physical activity and motivational counselling after which women continued with infertility treatment. Women in the control group started infertility treatment after randomisation. Methodes: Analysis was performed in 280 women in the intervention group and 285 in the control group . The economic evaluation was performed from a hospital perspective including direct medical costs of the lifestyle intervention, infertility treatments, medication and pregnancy. To evaluate the impact of varying effectiveness outcomes and subgroups on the cost-effectiveness we performed exploratory scenario analyses and bootstrap were performed to assess uncertainty surrounding cost-effectiveness. Main outcome: The primary outcome for effectiveness was the vaginal birth of a healthy singleton at term within 24 months after randomisation. Results: Rates of the primary outcome were 27% and 35%. Total mean costs per woman in the intervention group within 24 months after randomisation were €4324 versus €5603 in the control group (cost difference -€1278). The probability that the case is a cost-effective strategy was 2.3%. Exploratory scenario analyses showed that effectiveness outcome of all live births, irrespective of delivery within or after 24 months, cost-effectiveness improved. The probability that lifestyle intervention is cost-effective in anovulatory women was 40% and 39% in the scenario of women that completed lifestyle intervention. Conclusion: Lifestyle intervention preceding infertility treatment in obese infertile women is not cost-effective. Cost-effectiveness is more likely for longer follow-up times, and in anovulatory women, in completers of the lifestyle intervention and in women >36 years old.

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