The effect of obesity on assisted reproduction remains unclear. Although some studies have found that obesity has a negative effect on the clinical outcome, other studies could not confirm these results. The aim of this study was to conduct a meta-analysis of controlled studies to clarify this important issue. A meticulous search of the literature was conducted searching the Medline database, the EMBase, the Cochrane library as well as hand searching relevant publications and proceedings of international congresses. Twenty six studies were retrieved. The studies were evaluated independently by the first three reviewers and the differences were settled by consensus with the other reviewers. Of the 26 studies, 10 fulfilled our inclusion criteria. Obesity was defined as a body mass index (BMI) of more than 30 Kg/m2, while patients with normal weight were those with a BMI of 20 to 25 Kg/m2. The primary outcome measure was the live birth rate. The secondary outcome measures were the cancellation, implantation, miscarriage, clinical pregnancy and multiple pregnancy rates. The meta-analysis was conducted using the RevMan software with the Peto-modified Mantel-Haenszel method and the fixed effect model. The results show that the cancellation rate was significantly higher in obese women at 8.33% compared to 6.10% in patients with normal weight [OR = 1.398 (95% CI = 1.165-1.678)] (P<0.0001). The live birth rate was significantly lower in obese women at 24.06% compared to 27.06% in patients with normal weight [OR = 0.854 (95% CI = 0.781-0.933)] (P < 0.001). Similarly, in obese women, the clinical pregnancy rate was significantly lower at 40.14% compared to 43.15% in patients with normal weight [0.883 (95% CI = 0.800-0.975)] (P = 0.015) and the miscarriage rate was also significantly increased in obese women at 22.21% compared to 19.37% in women with normal weight [OR = 1.189 (95% CI = 1.023-1.380)]. However, there was no significant difference in the implantation rate [OR = 1.063 (95% CI = 0.949-1.191)] (P = 0.307) or in the multiple pregnancy rate [OR = 0.744 (95% CI = 0.550-1.008)] (P = 0.067) between both groups. It is concluded that in women undergoing IVF and ICSI, obesity is associated with significantly lower live birth and clinical pregnancy rates. The cancellation and miscarriage rates are also significantly higher in obese women, but the implantation and the multiple pregnancy rates are not affected by obesity.