COST-EFFECTIVENESS OF RECOMBINANT VERSUS URINARY FOLLICLE-STIMULATING HORMONE IN ASSISTED REPRODUCTION TECHNIQUES IN THE ITALIAN HEALTHCARE SYSTEM

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Introduction
The focus on cost-containment imposed by shrinking national health care budgets is increasingly putting pressure on investigators to demonstrate that newer interventions are not only effective but also cost-effective. In the area of assisted reproductive technology (ART) a shift in usage is occurring from urinary derived to biotechnology – derived (recombinant) gonadotropins for ovarian stimulation. The objective of this study was to compare the cost-effectiveness of recombinant(r) FSH with urinary(u) FSH in Italy.

Methods
A computer simulation model was used to compare clinical outcomes and costs from using recombinant or urinary FSH (Gonal-F or Neo-Fertilorm) for controlled ovarian stimulation in Italian IVF centres. The model used the Markov modelling approach combined with Monte-Carlo simulation techniques in order to be able to perform a multivariate sensitivity analysis. Transition probabilities were described with both the mean and the confidence interval in order to take into account medical practices differences in Italy. Assumptions underlying the model were derived from published literature and the opinions of an Italian expert panel.

Results
Results from 5000 Monte-carlo simulations, each involving a cohort of 100 000 patients, showed that the cost per pregnancy achieved was significantly lower (p < 0.001) for patients treated with r-hFSH (€28826.6) than those treated with uFSH (€29859.8). The mean number of cycles per successful pregnancy was 4.36 for r-hFSH and 4.73 for uFSH. Pregnancy rates were higher for patients treated in the public sector than the private sector, due to a higher probability of returning for a second cycle if the first cycle was unsuccessful.

Conclusions
It is concluded that r-hFSH is a more cost-effective option than uFSH in the Italian healthcare system because the greater clinical efficacy of r-hFSH outweighs its higher acquisition cost.

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