EFFECTS OF PATIENT FACTORS ON IMPLANTATION RATES IN

IN VITRO FERTILIZATION

Heidi Richardson

Sofia Soto

**Abstract**

The purpose of this report is to evaluate the effects of patient factors and embryo quality on the implantation rate in In Vitro Fertilization (IVF). For this report, statistical methods are used to test the significance of several patient and embryo characteristics on embryo implantation rate. This project is an analysis of data collected from over 36,000 patients.

The analysis concluded several findings. There was enough statistical evidence to conclude that age was significant in regards to implantation rate and FSH levels. As the patient ages, the amount of FSH levels found in their blood increases. A patient with high FSH levels produces less oocytes than a patient with a lower FSH level. A low number of oocytes produced will in return yield a lower implantation rate. When body-mass index and smoking preference were analyzed, the analysis showed that the null hypothesis could not be rejected. When looking at embryo morphology, they played a significant role within percentile groups. The most significance was shown within the embryos that were transferred in day 5. These conclusions support the fact that since embryos are graded as good quality depending on their morphology, any improvements can be seen through the improvement of this selection process.

There are several direct and indirect costs that result from IVF treatments. These treatments are very costly ranging from $16,000 - $800,000, and can represent a significant economic burden for families. Besides having a monetary impact, IVF procedures also have a great psychological impact on patients. Undergoing an IVF treatment can greatly affect a patient's emotional, physical, and relational status.