Abstract

Technological advances in medical sciences are motivating researchers across the world to contribute to the field of assisted reproductive techniques, commonly referred as ART. During ART treatment, in case of male infertility, couples are often advised conceiving through donor sperms. Such couples have a common fear that the offspring may not resemble them in physical appearance. Any notable deviation in the offspring’s physical appearance from his or her parents may seriously affect the couple both socially and psychologically. It is often expected that the selected sperm donor profile for a couple should have physical characteristics similar to either of the partners, most preferably the male. The ART specialist and sperm banks find difficulties in selecting donor profile that suitably matches with the requirements of the recipient couple. In this paper, nominal and binary variable methods are applied to identify the donor profiles that match with the requirements of recipient couple. The results are analytically presented and tested under the supervision of experts. It is found that the outcomes are satisfactory compared to manual selection and as a result these techniques can be integrated in designing an expert tool to assist the ART specialist and sperm banks in selecting the best
matching donor profiles for recipient couples.

References

Sperm Donor Selection using Nominal and Binary Variable Methods


19. Jiawei Han and Micheline Kamber., 2006, Data Mining Concepts and Techniques, Second Edition, Elsevier, pp. 386-398

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