

Panchal Navin* (FRCOG, AMPH(ISB)), Kavya Shri, Sumeet Kumar, Janmey Panchal

Introduction

- ## Objectives

- ## Materials & Methods

- ## Results

- ## Variables and Formula

Expanded Formula:

Probability of Positive Beta HCG= $\frac{1}{1+e^{-z}}$

Design and Flow of Study

- Allowing Individualized interventions

Conclusions

- This study highlights the potential of **data mining and predictive modelling** in **personalizing IVF treatments**. The integration of **machine learning-driven insights** can enhance clinical decision-making, improving patient outcomes and success rates.
- The Logistic regression model identified **high-impact factors** influencing implantation and pregnancy outcome.
- Future research will focus on **refining AI-driven decision support tools** for broader clinical application.
- **The limitation of study was that at present analysis and model development was done on internal data and external data is required for accuracy of mode**

References

1. Uyar, A., & Bener, A. (2015). Artificial intelligence-based prediction of in vitro fertilization outcomes using patient and treatment profiles. **Computers in Biology and Medicine**, 62, 193–204.
<https://doi.org/10.1016/j.combiomed.2015.04.006>
2. Blank, C., Wilde, B., Schleyer, M., et al. (2019). Data mining algorithms for the prediction of IVF outcome. **Reproductive Biology and Endocrinology**, 17, 116.
<https://doi.org/10.1186/s12958-019-0551-2>
3. Hafiz, P., Nematollahi, M.A., Alahverdi, R., et al. (2017). Prediction of IVF/ICSI outcome using artificial neural network and decision tree. **International Journal of Reproductive Biomedicine**, 15(10), 629–638.
<https://doi.org/10.29252/ijrm.15.10.629>
4. Das, A., et al. (2020). Predictive modeling of IVF treatment success using supervised machine learning. **Healthcare Technology Letters**, 7(4), 104–109.
<https://doi.org/10.1049/htl.2019.0026>
5. Manna, A., et al. (2023). Artificial Intelligence in IVF: Predictive Analytics and Patient Counseling. **Journal of Assisted Reproduction and Genetics**, 40, 1597–1608.