

Development and validation of Semen Interpreter, a mobile application based tool for point of care evaluation of Male Factor Infertility

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Background

Semen Analysis Interpretation is a crucial step in evaluation of an Infertile couple. It is desirable to have a point of care tool for interpretation of Semen analysis report for appropriate referral to infertility specialist

Aim

To develop and validate Semen Interpreter, a mobile application tool in the diagnosis and prognostication of male infertility

Result

The concordance score for Semen interpreter (96%) and Senior Gynecologist (84%) was greater than that for reproductive medicine fellow (72%) and gynaecology trainee (64%). Common errors by gynaecology trainees included inaccurate interpretation of motile sperm concentration and subsequent advice.

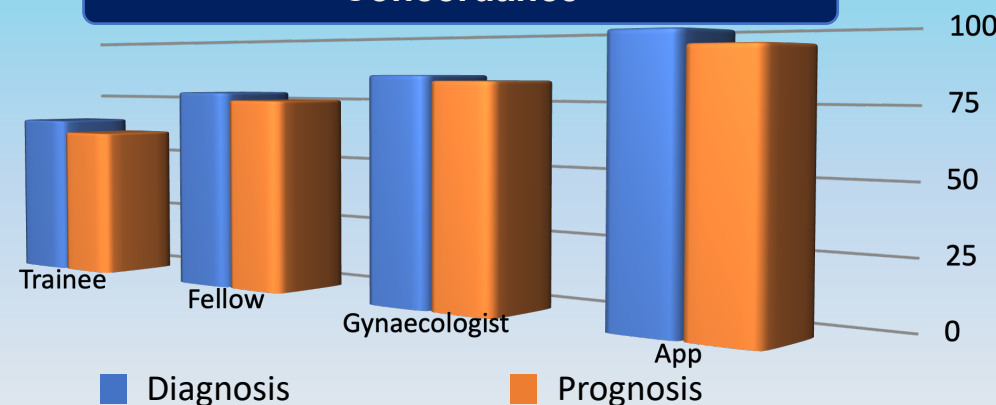
Semen Interpreter

Methodology

We developed the Semen interpreter, a mobile application-based tool for interpreting semen analysis. The interpreter guidance was validated against a senior gynaecologist, reproductive medicine fellow, and gynaecology trainee against gold standard interpretation by infertility specialist

100 semen analysis reports done in our hospital between August 2024 and October 2024 were randomly evaluated by all 5 participants using Google forms, each blinded to the other. All semen analysis were done based on WHO 2008 revised criteria.

Concordance



Conclusion

High rates of discordance in diagnosis and prognostication in Gynaecology trainee and fellow. The use of Semen Interpreter significantly reduces the discordance.