

## Indeks fragmentasi deoxyribonucleic acid (DNA) sperma sebagai faktor peramal infertilitas pria = Sperm deoxyribonucleic acid fragmentation index as a predictor of male infertility

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### Abstrak

Hampir 50% kasus infertilitas disebabkan oleh faktor pria. Infertilitas pria dapat tidak terdeteksi dengan analisis sperma dan mempengaruhi keluaran Teknologi Reproduksi Berbantu. Penelitian ini bertujuan untuk mengembangkan metode pemeriksaan untuk meramalkan infertilitas pria. Dengan desain potong lintang dan consecutive sampling didapatkan 2 kelompok subjek, infertil (78 subjek) dan fertil (36 subjek). IFD sperma diperiksa menggunakan metode sperm chromatin dispersion (SCD) dengan kit Halosperm®. Didapatkan nilai median IFD sperma kelompok infertil lebih tinggi secara bermakna dibandingkan kelompok fertil. IFD sperma juga memiliki AUC yang paling tinggi dibandingkan ketiga komponen analisis sperma (konsentrasi, motilitas, dan morfologi). IFD sperma memiliki nilai diagnostik yang lebih tinggi dibandingkan analisis sperma dengan titik potong optimal 26,1% dengan sensitivitas 80,8%, spesifisitas 86,1%, NDP 92,6%, dan NDN 67,4%.

.....Almost 50% of infertility are caused by male factors. Male infertility could not be detected by conventional sperm analysis and affect the outcome of Assisted Reproductive Technology. This study aim to develop a method to predict male infertility better. Using cross-sectional design and consecutive sampling, obtained two groups of subjects, infertile (78 subjects) and fertile (36 subjects). Sperm DNA fragmentation index (DFI) was examined using sperm chromatin dispersion (SCD) test by Halosperm® kit. Median value of sperm DFI on infertile group was significantly higher compared to fertile group. Sperm DFI also had the highest AUC compared to the three components of conventional sperm analysis (concentration, motility, and morphology). Sperm DFI had a higher diagnostic value than the sperm analysis with optimal cut-off-point of 26.1% with sensitivity of 80.8%, specificity of 86.1%, PPV of 92.6%, and NPV of 67.4%.