

## ABSTRACT

### THE ACCURACY OF SPERM CHROMATIN CONDENSATION METHOD TOWARD SPERM CHROMATIN DISPERSION METHOD IN EVALUATING THE QUALITY OF GENETIC MATERIAL OF HUMAN SPERM

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**Background:** The quality of genetic material in spermatozoa plays important roles in fertility. Sperm Chromatin Dispersion Method is used to check it in many fertility clinics nowadays because it is considered as simple and inexpensive. In fact there is other simple method that can be used such as Sperm Chromatin Condensation using Aniline Blue. This method is not widely used because its subjectivity is considered high and no experiments have been done to compare it with Sperm Chromatin Dispersion Method.

**Objective:** The aim of this study is to evaluate the diagnostic power of Sperm Chromatin Condensation Aniline Blue Method toward Sperm Chromatin Dispersion Method, and to show whether this can be used as alternative effective efficient tool to evaluate the quality of genetic material in human spermatozoa.

**Method:** A cross sectional observational analytic study will be used. Performed on male of infertile couples who came for the first time to evaluate his ejaculate in Andrology Clinic, DR. Soetomo Hospital, Surabaya in the period of August until October 2013. There were 69 participants in this study. Besides performing routine semen analysis on their ejaculates, we also checked the quality of genetic material in the spermatozoa using the sperm chromatin condensation and sperm chromatin dispersion method. The data of both methods were then compared and analysed statistically.

**Result:** Statistical analysis result showed that there were significant difference between the two methods. ROC Curve showed that Sperm Chromatin Condensation Method have an average level of distinguishability with higher enough sensitivity level. Further analysis showed that it also has an average level of concordance toward Sperm Chromatin Dispersion Method. The Sperm Chromatin Condensation Method took shorter time to be done and using much cheaper cost.

**Conclusion:** Sperm Chromatin Condensation Method can be used as alternative tool for evaluating the quality of genetic material in human spermatozoa, especially for being used as a screening method before doing further evaluation using Sperm Chromatin Dispersion Method.

**Keywords :** quality of sperm genetic material, chromatin density, aniline blue, chromatin dispersion