

ABSTRACT**THE EFFECT OF PRE-FREEZING DENSITY GRADIENT
CENTRIFUGATION TO THE QUALITY AND RECOVERY RATE OF
POST-THAWING SPERMATOZOA**

Seso Sulijaya Suyono

Objective: The aim of this study was to analyze the effect of sperm preparation Density Gradient Centrifugation (DGC) done pre-freezing to the motility, viability, normal morphology percentage of post-thawing spermatozoa.

Method: This study was conducted at Laboratory of Medical Biology Department, Faculty of Medicine, Universitas Airlangga Surabaya between November 2017 and January 2018. Sample of the study was ejaculate obtained from volunteers came to Medical Biology Department. Twenty volunteers were included in this study. All samples were split into two parts, one as control and we did DGC to another part. After adding some cryoprotectant (SpermFreeze™), we cryopreserved the samples according to the protocol of SpermFreeze™. The effects of sperm cryopreservation were evaluated by examined the motility, viability and normal morphology percentage before freezing and after thawing, using 5th edition WHO's method. We compared the percentage of motility, viability and morphology post-thawing decline between control group and DGC group. The p-value < 0.05 was considered as significant.

Result: This study showed the percentage of post thawed motility and viability decline were similar between two group. On the other hand, the percentage of post thawed normal morphology decline in the control group was greater than the DGC group with the p-value < 0.001.

Conclusion : Density Gradient Centrifugation done pre-freezing could optimize the post-thawing morphology of normal spermatozoa.

Key words: density gradient, freezing, sperm, thawing