The effect of *Origanum vulgare* extract on kinetics parameters of cryopreserved ram sperm

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ABSTRACT

The aim of current study was to evaluate the effect of *Thymus vulgaris* extract as a natural antioxidant on kinetics parameters of post-thawed Moghani ram sperm. Four Moghani ram were used for semen collection twice a week by an artificial vagina and ejaculates with same condition were pooled. Different levels of ethanol extract of *Thymus vulgaris* (0, 2, 4, 8, 12 and 16ml in dL diluents solution) were added to Tris based diluents. Following cooling and freezing of semen samples, they were stored in liquid nitrogen until evaluation. After freezing-thawed, the dynamic parameters were evaluated using CASA system. results showed that 2 and 4 mL/dL *Thymus vulgaris* extract had higher percent total motility (57.92 ±4.56% and 55.38 ±4.17%) compared to other groups (P < 0.05). Extended semen supplemented with 4 mL/dL extract exhibited higher (P < 0.05) percentages of progressive motility compared to control, 12 and 16 mL/dL extract groups. The percentage of VSL was higher (P<0.05) in the extender containing 4 and 8 mL/dL extract compared to the other groups. 4 mL/dL extract caused significant increase in VCL parameter in comparison to the control, 12 and 16 mL/dL extract groups (P < 0.05). VAP parameter level was higher (p < 0.05) in 4 mL/dL compared to 16 mL/dL extract. For parameters of progressive motility and VSL, LIN and STR the lowest performance (P<0.05) was observed at 16 mL/dL of extract. In conclusion, supplementation of extender with 4 mL/dL *Thymus vulgaris* L. extract improves kinetics parameters of post-thawed ram sperm.

Keywords: Antioxidant, Thymus vulgaris, Semen, Freezing-thawed