

Short-term effects of high-dose khat on sperm parameters and reproductive hormonal levels in olive baboons (*Papio anubis*)

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Abstract

The biological effects of khat (*Catha edulis*) on reproduction and fertility are inadequately investigated and controversial, hence we determined the effects of oral administration of high-dose khat on sperm parameters and male hormonal levels in olive baboons. In this study, 6 male baboons received a high dose of khat (500 g/week) during 1 month. Electroejaculation for sperm studies (concentration, motility and chromatin integrity) and plasma collection for hormonal analysis (testosterone, prolactin and cortisol) were done weekly during 1 month before and 1 month during khat administration as well as 2 weeks after the last dose of khat administration. Administration of khat extract induced a significant reduction in sperm motility ($p = 0.008$), sperm count ($p = 0.041$), sperm chromatin integrity ($p = 0.0003$), testosterone levels ($p = 0.035$) and prolactin levels ($p = 0.0115$), but not in cortisol levels and sperm volume ($p > 0.05$). The results suggest that high-dose khat decreases sperm quality and testosterone and hence may contribute to male infertility.