Abstract

Objectives: The goal of this article was to evaluate the association between flaxseed intake during lactation and its effects on the reproductive indexes in female offspring at infancy, puberty and adult age. Material and methods: Two groups were evaluated, an experimental group (FG, n = 24) which consumed a flaxseed based diet and a control group (CG, n = 26) which had access to a casein based diet. Both of them were fed exclusively with the mentioned diets during all lactation and after weaning the pups received a standard laboratory diet until sacrifice (at weaning, in the moment of vaginal opening or at 90 days old). It was analyzed the puberty onset, estrous cycle, serum estradiol and albumin concentrations, body weight, uterine and ovarian weights. Results: Estradiol and albumin serum concentrations, body weight, uterine and ovarian relative weights were similar in FG and CG at weaning, at vaginal opening and at 90 days old. There was not significant difference in puberty onset between FG and CG, both had similar body weight at vaginal opening. The length of estrous cycle was similar for both groups. There was no significant difference concerning number of females with irregular estrous cycle, only 2 females had irregular cycle in FG and 3 in the CG. None of the females was acyclic. Conclusion: Flaxseed intake during lactation did not interfere with sexual maturation and reproductive organs development, suggesting that its consumption during this period is safe for sexual development of female offspring.

Keywords
Flaxseed, Uterus, Ovary, Puberty, Estrous cycle.