

A survey on relationship between body condition score, vaginal pH and some serum biochemical parameters and sex ratio of their offspring in Arabian mares

Behzad Mehrpour¹; Sojdeh Kamali^{2*}; Saad Guraninejhad³; Alireza Ghadrdan Mashhadi³; Mohammad Razi Jalali³ and Abdolrahman Rasekh⁴

¹ DVM Graduated, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

² Assistant Professor, Department of Nutrition and Breeding, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

³ Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

⁴ Professor, Department of Statistics, Faculty of Mathematics and Computer Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran

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Abstract

Among various animal species, fetal sex determination and the of methods to make earlier diagnosis of fetus sex possible are of great interest. There are several assumptions to predict the sex ratio of offspring from a given parent, including the relationship between maternal body condition and some factors in the environment. The present study conducted on 25 Arab mares in Ahvaz, Khuzestan, in the southeast of Iran, to investigate the relationship between maternal body condition score (BCS), vaginal pH, blood glucose, triglyceride, cholesterol and urea levels in mares and offspring sex ratio, one month before mating and at mating time, and also the above-mentioned parameters' changes during these periods. The results showed that the maternal BCS had no significant effect on predicting offspring sex one month before mating, while its effect on offspring sex was significant at mating time. As was expected, with one-unit increase in maternal BCS one month before mating, the proportion of males to females offspring increased by 4.81 times. The U-Mann-Whitney statistical test showed that the mean score of body condition in mares, who had a colt, was significantly better (higher) than in mares with fillies at each time point of the study. However, no significant relationship was found regarding changes in body condition score and offspring gender. It was also found that other variables had no significant effect on offspring sex at any time of evaluation. In general, it can be claimed that BCS assessment can play an effective role in predicting offspring sex ratio.

Key word: Arabian horse, BCS, Biochemical parameters, Sex ratio, Offspring

* **Corresponding Author:** Sojdeh Kamali, Assistant Professor, Department of Nutrition and Breeding, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran, E-mail: kamalisojdeh@yahoo.com



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