

IDENTIFICATION OF CRITICAL LACTATION STAGE FOR THE BODY COMPOSITION IN MALE OFFSPRING OF HIGH-FAT FED DAMS

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Each stage (early, middle and late) of lactation is a critical period during which maternal malnutrition can negatively effects on the offspring's body development. We investigated the effects of a maternal high fat diet (HF) during the different stages of lactation on body weight of male offspring at weaning. Female Wistar rats were fed either a HF diet only during the first week (HF1-7 group), second week (HF7-14 group), third week (HF14-21 group) and throughout lactation (group HF1-21) or standard diet during all lactation. Biometric parameters of dams and male offspring were evaluated. HF fed dams did not have a difference in body weight, food intake and fat pad compared with the control dams. Regarding the offspring, a higher final body weight was observed in males from the HF7-14 and HF14-21 and HF21 groups compared to the control. There was an increase in retroperitoneal and mesenteric fat in HF21 and HF14-21 compared with control groups. Higher perigonadal fat pat was only observed in HF21. Consumption of maternal HF diet throughout lactation causes high body weight in male offspring. Interestingly, each isolated phase also causes important body weight accumulation, mainly the second and third week.

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