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Relationship between health problems and fertility in lactating dairy cows submitted to timed-artificial insemination fertility programs.

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Resumo

The study evaluated the relationship between health problems (HP) and fertility in lactating Holstein cows submitted to fertility programs for the first postpartum timed-artificial insemination (TAI). All cows (387 multiparous and 411 primiparous), from a commercial dairy herd, were submitted to fertility programs (presynchronization + TAI protocol initiating with GnRH), differing in their pharmacological bases (Ovsynch-type or estradiol [E2]/progesterone [P4]-based programs), and received the first TAI postpartum with 60 ± 3 days in milk. Using the IDEAGRI software, data related to the following diseases were retrieved: retained placenta (RP), metritis, endometritis, and mastitis. For analyses, cows were classified as healthy (HLT) or with health problems (HP), and as having one (1HP) or more HP (≥2HP). Pregnancy diagnoses were performed 32 and 60 d after TAI, and pregnancy loss (PL) was evaluated. Statistical analyses were performed using the GLIMMIX procedure of SAS 9.4 ($P \leq 0.05$). There was no interaction between HP and neither presynchronization strategy nor TAI protocol on pregnancy per AI (P/AI) and PL. A total of 35.5% (283/798) of cows were classified as with HP (RP: 5.5%; metritis: 17.2%; endometritis: 6.5%; and mastitis: 17.0%). Multiparous cows had a greater proportion of HP than primiparous (39.5 [153/387] vs. 31.6% [130/411]), and there was no interaction between parity and HP on fertility. The P/AI on d 32 was greater in HLT than HP cows (52.4 [270/515] vs. 39.9% [113/283]), as well as for the 60-d pregnancy diagnosis (43.5 [224/515] vs. 32.2% [91/283]). The P/AI on d 32 differed among classes of cows, with HLT cows having the highest P/AI, followed by an intermediate fertility on cows with 1HP, and the lowest fertility in cows with ≥2HP (52.4a [270/515], 43.7b [94/215], and 27.9%c [19/68], respectively). The same pattern was detected for P/AI on d60 (43.5a [270/515], 35.4b [94/215], and 22.1%c [19/68], for HLT, 1HP and ≥2HP, respectively). Curiously, there was no difference on PL among HLT, 1HP and ≥2HP cows (17.0, 19.2 and 21.1%, respectively). This study is novel in terms of associating HP with fertility after TAI with a large number of cows in a Brazilian commercial dairy herd. In summary, HP had a clear negative effect on fertility of lactating dairy cows, which in this study was evidenced by the substantial decrease on P/AI, although no significant effect on PL was detected. Modern dairy herds must have a holistic vision, aiming to understand and control aspects associated with HP increasing overall performance and profitability.