



ELSEVIER

Preventive Veterinary Medicine 47 (2000) 157–175

PREVENTIVE
VETERINARY
MEDICINE

www.elsevier.nl/locate/prevetmed

Operation-management factors associated with early-postnatal mortality of US foals

Willard C. Losinger^{a,*}, Josie L. Traub-Dargatzis^b,
Rajan K. Sampath^c, Paul S. Morley^b

^aUSDA: APHIS: VS, CEAH, 555 South Howes Street, Fort Collins, CO 80521, USA

^bCollege of Veterinary Medicine and Biomedical Sciences, Colorado State University,
Fort Collins, CO 80523, USA

^cDepartment of Agricultural and Resource Economics, Colorado State University,
Fort Collins, CO 80523, USA

Received 19 January 2000; accepted 24 August 2000

Abstract

Of 7320 equine foals reported born alive during 1997 on 1043 operations that had equids on 1 January 1997, and that participated in the United States National Animal Health Monitoring System (NAHMS) Equine 1998 Study, 120 foals were reported to have died (by either euthanasia or natural causes) within the first 2 days of a live birth. The weighted estimate was 1.7% mortality (standard error = 0.5) within the first 2 days of live birth for all foals born on operations in the 28 states included in the study.

A multivariable logistic-regression model revealed that foals born in the southern region were more likely to have been reported to have died within the first 2 days of live birth than in the western region. In addition, the following operation-level factors were associated with increased odds of a foal dying within the first 2 days of live birth: not routinely testing newborn foals for adequate absorption of colostral immunoglobulins during the first 2 days of life; adding new resident equids to the operation during 1997; having non-resident equids stay on the operation for 1–30 days during 1997; never requiring an official health certificate (for operations that had non-resident equids stay on the operation for 1–30 days); using something other than straw or hay as the predominant bedding type; and feeding equids a vitamin-mineral supplement/premix with forage and/or grain. Published by Elsevier Science B.V.

Keywords: Morbidity and mortality; Horse; NAHMS; USA

* Corresponding author. Tel.: +1-970-490-7815; fax: +1-970-490-7899.

E-mail address: willard.c.losinger@usda.gov (W.C. Losinger).

1. Introduction

The objective of equine breeders is to produce healthy foals that will grow to fulfill their aimed purpose. The neonatal period is a critical phase in an equid's life. Morley and Townsend (1997) reported that 5% of Thoroughbred foals died within 2 weeks of birth in four western-Canadian provinces. In a prospective study of foal health and management in Texas, Cohen (1994) stated that the risk of death in foals decreased with age, and was highest during the first 7 days of life. Haas et al. (1996) found that 74% of foal deaths occurred within 48 h of parturition in a large mare herd in Manitoba. The results of the National Animal Health Monitoring System (NAHMS) Equine 1998 Study of the United States Department of Agriculture (USDA) estimated that 1.7% of foals born alive either died of natural causes or were euthanized within 2 days of birth in the United States during 1997 (USDA, 1998a).

Conditions or agents that have been described as causes of foal mortality include congenital anomalies (von Matthiessen, 1993; Campbell-Beggs et al., 1995; Doige, 1996; Theoret et al., 1997), equine herpesvirus infection (Dixon et al., 1978), exposure of the pregnant mare to fescue toxicosis (Putnam et al., 1991; Cross et al., 1995), failure of colostral immunoglobulin transfer to foals (McGuire et al., 1977), septicemia (Carter and Martens, 1986), haemorrhage from the umbilicus (Haas et al., 1996), diarrhea (Cohen, 1994), pneumonia (Prescott et al., 1989), trauma (Cohen, 1994), and starvation/exposure (Haas et al., 1996).

Only a few studies have examined risk factors involved in early post-natal foal mortality. Cohen (1994) did not identify factors that were significantly associated with foal mortality—possibly because the low number of deaths observed in his study limited the power. Haas et al. (1996) found that failure of passive transfer, poor mothering ability, dystocia, low birth weight, lack of rainfall and low environmental temperatures were associated with foal death on a pregnant-mare operation in Manitoba. However, their study population was atypical of United States equine populations in that assistance to foals was minimal and foal mortality was quite high (22% before reaching 10 days of age) (Haas et al., 1996).

The purpose of this investigation was to identify management and other operation-level factors that were associated with foal death within 2 days of live birth in the United States during 1997, based on data from the NAHMS Equine 1998 Study.

2. Materials and methods

2.1. Source of data

Data used in this study were gathered from participants in the NAHMS Equine 1998 Study. The USDA's National Agricultural Statistics Service (NASS) chose participants both from lists of operations with large numbers of equids, and from operations with equids within randomly selected land areas (USDA, 1998a).

The development of the lists took place during the summer and fall of 1997, and concentrated on including operations such as boarding stables, riding and training

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات