

Background, experience and perceptions of antibiotic use of individuals treating cows on Californian dairies

A. Espadamala, DVM¹ ; P. Pallares, DVM¹ ; A. Lago, DVM, PhD² ; N. Silva-del-Río, DVM, PhD¹

¹UC Davis School of Veterinary Medicine, VMTRC, Tulare, CA 93274

²DairyExperts, Tulare, CA 93274

Introduction

The large size of dairy operations in California (average herd size of 1,200 cows/dairy) creates large demands for hired help. Most dairy employees on California dairies are of Hispanic ethnicity with little formal training on animal husbandry. Communication issues on these dairies have been documented between upper management and individuals administering antibiotic treatments to calves. This could result on treatment protocols (as decided by veterinarians and owners) not being followed by the dairy employee. The objective was to describe the involvement of owners and veterinarians on fresh cow evaluations, and to identify who the fresh cow evaluators requested advice from. The identification of influencers is key to design an effective outreach program.

Materials and Methods

A total of 20 dairies, 2 Jersey and 18 Holstein herds, ranging in size from 600 to 9500 cows, were visited in Tulare-Kings and Merced-Stanislaus Counties in California. Two bilingual veterinarians recorded responses from individuals treating cows during fresh cow (FC) evaluations and during milking of mastitic cows. A survey tool with structured and semi-structured questions captured information on the following themes: a) job organization, b) background and experience, c) venues to acquire new knowledge, d) perceptions regarding antibiotic resistance, and e) lines of communication with veterinarians, dairy producer, herdsman, and pharmaceutical sales representative (PSR).

Results

Dairy owners conducted FC evaluations (n=2), supervised FC evaluations (n=4) or delegated FC evaluations (n=13). The dairy veterinarian that identified and treated FC, especially between 14 to 30 DIM, once a week (n=2) or every other week (n=3) provided occasional advice on treat-

ments (n=8) or they were not involved on FC health decisions (n=6). Dairies with minimum veterinarian involvement relied on PSR and/or other consultants for advice on herd health. During FC evaluations a single individual identified sick cows and decided on treatments (dairy owner (n=2), herdsman (n=6) or dairy worker (n=11)). Evaluators had <1 yr (n=2), 1 to 5 yr (n=4) or > 5 yr (n=13) of experience in the fresh cow evaluation, and they were working in the same dairy for <5 yr (n=1), 5-10 yr (n=2) or >10 yr (n=16). On 12 dairies FC evaluations and mastitis treatments were performed by the same person. New knowledge was acquired working with more experienced employees at the dairy in all cases, based on formal training (<1 year (n=5) or 1-5 yr (n=2) ago), communication with other dairies workers (n=7), or through self-teaching (n=4). Generally, most employees did not know the risks of an inappropriate use of antibiotics, and they had never heard about the antibiotic resistance concept. Based on FC evaluators, treatments were decided by the owner (n=10) or manager (n=9). And when advice on treatments was needed, the owner or manager (n=9), the veterinarian (n=9), or the PSR (n=1) were consulted. Information on new drugs and treatments came through veterinarians (n=4), PSR (n=8) or both (n=7), although most herdsmen had the perception that on-farm veterinarians are influenced by pharmaceutical labs.

Significance

Generally, employees who performed FC and mastitis treatments had many years of experience working at the same dairy. The information on this study suggests that stewardship of antibiotic use on dairies should include outreach and education efforts directed to the dairy employees proportionally to their involvement on antibiotic handling. Furthermore, dairy employees seem to rely on their peers to learn and discuss work related issues. We identify PSR as key influencers on dairy employees. However, we found veterinarians could have a more relevant role.