

Tuberculosis among dairy workers in Texas

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BACKGROUND

One health hazard on a dairy farm is the potential exposure to *Mycobacterium tuberculosis* (TB).¹⁻⁶ Besides the human version, there is also a bovine (cattle) version of the disease called *Mycobacterium bovis* or bovine tuberculosis (bTB). Bovine TB is a zoonotic disease transmitted from cattle-to-cattle, cattle-to-person, and person-to-cattle and person-to-person via airborne droplets in close-proximity encounters, such as working on a dairy farm.³ bTB can also be transmitted via the consumption of unpasteurized dairy products, a common practice in certain countries outside the U.S.⁶ These infectious features of bTB make it particularly concerning among dairy workers who are routinely exposed to such risk factors.^{2,3,6} In the U.S., *M. bovis* is *not* endemic. However, sporadic whole herd bTB infections have adverse economic, public health, and governmental implications.⁷

TB CASE STUDY

This study involved a secondary analysis of data that were collected by Texas State Department of Health Services (DSHS) Public Health Region 1 (PHR 1). A total of 140 dairy workers were tested using the T.SPOT.TB assay. Positive LTBI was found among 14/140 (10.0%) of the dairy workers tested. All LTBI cases were determined to be from Hispanic workers with 71.4% indicating having been vaccinated with the BCG vaccine in their country of birth and none indicated previously known exposure to TB.

TB KNOWLEDGE

A cross-sectional study design was used to collect 225 survey responses concerning knowledge of TB among dairy workers in Texas. A 17-item TB knowledge quiz measured: (1) TB characteristics, (2) TB transmission, (3) TB symptoms, (4) TB diagnosis, (5) TB treatment, and (6) bovine TB. Overall knowledge of quizzed measures was 41.8% (out of 100%) and basic awareness of TB as a disease was 37.3% among surveyed dairy workers.

TB EXPOSURE HISTORY & RISK FACTORS

A total of 4/225 individuals identified having been diagnosed with active TB in the past. However, only 2/4 reported seeking TB treatment which was successfully finished. About a third of workers reported consuming raw dairy products. Out of that third, 81.4% had consumed these raw dairy products in their non-U.S. home country and 18.6% while working on a U.S. dairy farm. Almost 6.0% of workers had worked with bTB infected cattle on U.S. dairy farms while 33.3% had heard of bTB outbreaks on other farms in their county.

FUTURE DIRECTIONS

Deficiencies in TB knowledge were identified at all quizzed measures. TB training on dairy farms should include all measures tested in this study and should be administered to all workers regardless of work experience on the farm. TB history among dairy workers remains vague. As a high risk population, dairy workers could be tested before their start date, tested if suspected of infection, and treated if positive for latent or active TB disease.

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