Raw (Unpasteurized) Milk: Are Health-Conscious Consumers Making an Unhealthy Choice?

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(See the article by Guh et al, on pages XXX–XXX.)

An increasing number of health-conscious consumers are seeking natural, unprocessed foods, including fresh, locally grown produce, eggs, poultry, and meats. Concomitant with this consumer interest, the US Department of Agriculture created Know Your Farmer, Know Your Food and the Farmers Market Promotion Program [1, 2]. These governmental programs seek to improve nutritional choices made by Americans with the goal to reduce the incidence of obesity, diabetes mellitus, and other chronic illnesses [3]. However, in the midst of trends toward choosing less processed foods is a growing consumer demand for raw (unpasteurized) dairy products. Advocates promote raw milk for its better taste and purported health benefits and as a way for consumers to support small dairies and local agriculture. At the same time, the public health community speaks in a nearly unanimous voice to warn consumers, farmers, and retail stores that sell the products about the significant health risks associated with raw milk consumption.

These risks are well documented and include numerous foodborne disease outbreaks and illnesses linked to consumption of contaminated raw milk or products made from raw milk [4, 5]. LeJeune and Rajala-Schultz [4] reviewed the hazards associated with raw milk consumption and pointed out that in the 21st century dairy products are responsible for <1% of reported foodborne disease outbreaks in the United States. In contrast, milkborne outbreaks comprised 25% of all disease outbreaks due to contaminated food and water in the early 1900s. The vast reduction in milk-related illnesses during this period is attributed to the implementation of pasteurization as a processing step and improved sanitation and refrigeration throughout the production chain. In addition, domestically acquired milkborne tuberculosis and brucellosis have been virtually eliminated because of concerted efforts to control these diseases in the nation’s cattle herds.

The study by Guh et al [6] describes the severe health consequences and costs associated with a single *Escherichia coli* O157 outbreak linked to commercial raw milk. Although dairy products as a group are generally considered low risk in the epidemiology of *E. coli* O157 [7], reports of hospitalizations and complications, such as hemolytic uremic syndrome, associated with contaminated raw milk appear to be on the rise, especially among children [6, 8–10]. Findings from this investigation also highlight the importance of secondary and tertiary transmission of *E. coli* O157 wherein one child that drank raw milk subsequently infected a sibling, who was then the source of infection for a third child. Advocates of raw milk frequently argue that consumption of raw milk is a personal choice, but this outbreak shows that it can be the source of a communicable disease with the potential to spread to non-raw milk drinkers. The authors are to be commended for including an economic analysis associated with this outbreak, which revealed more than $400,000 in medical and public health expenses. It would be beneficial if cost calculations became routine in foodborne outbreak reports.

This outbreak occurred in Connecticut, a state where retail and on-farm raw milk sales are legal. The US Department of Health and Human Services proposed a new Healthy People 2020 goal to “increase the number of states that have prohibited sale or distribution of unpasteurized dairy products” [11, p FS-3]. Although prohibition of raw milk sales and distribution is an effective intervention strategy, the authors duly note that proposed regulations to restrict retail raw milk sales in Connecticut after this outbreak failed because of strong public opposition and lack of...
political will. Despite a wealth of scientific data supporting the effectiveness of pasteurization in protecting the public from milkborne illness, there is a presumably small but vocal segment of the population that desires to consume raw dairy products. In lieu of bans, regulatory standards and education may be the best approaches to protect the public from exposure to contaminated raw milk. Regulations should include provisions such as pathogen testing, sanitation standards, and warning labels. The authors state, “Notably, contamination occurred despite acceptable milking and sanitation procedures, according to regulatory standards” [6, p XXX]. This finding suggests that there is a need for more research into best management practices for raw dairy production to reduce the risk of contamination in states where prohibition is not an option.

In addition to regulation, education is critical. Experts in infectious diseases are in the unique position to provide leadership in educating consumers, farmers, lawmakers, and the media about the relative risks of consuming raw milk. However, education efforts must be relevant to the population likely to seek commercial raw dairy products, a group that has been described as health-conscious, well-educated adults [12]. For those who value the perceived “probiotic” bacteria in raw milk and eschew processed foods, messages promoting pasteurization or even alternatives to pasteurization, such as filtration, sonication, and irradiation, are not likely to be effective. In addition, within the raw milk movement is a distrust of conventional medicine, agriculture, and government, somewhat analogous to the vaccination controversy. Because many people today visit the Internet for information on health and nutrition, communication strategies such as Web sites and social media are becoming important tools for risk communication (for an example, visit http://www.realrawmilkfacts.com).

In summary, it is important for health professionals to educate themselves about the debate surrounding raw milk consumption and be prepared to answer questions from the public about both safety and health benefit claims.

Acknowledgments


References