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Got raw milk?

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ER doctor calls for research into disease-fighting components.

By Loren Muldowney

Editor’s note: This is the third of a four-part series that will appear monthly in the nutrition section of our website. It is based on the recent lectures in a Seminar Series on Raw Milk hosted by Rutgers University Agriculture Experiment Station. See part I: **The truth about milk**, and part II: **Lactose intolerance**.



Mark E. Gebhart, M.D., spoke April 3 on “Raw milk: a microbiology primer.” Gebhart is assistant professor of emergency medicine at Wright State University in Dayton, Ohio, where he serves dual directorships of EMS/Medical Readiness and the Homeland Emergency Learning and Preparedness (HELP) Center in addition to his teaching responsibilities. He also practices clinical emergency medicine as a staff member of a local hospital. Dr. Gebhart began with the disclaimer that any views he expressed were his own.

"[Raw milk] contains multiple, redundant systems of bioactive components that can reduce or eliminate populations of pathogenic bacteria."

There are, said Dr. Gebhart, two main issues in comparing raw versus pasteurized milk: safety and health benefits. Regarding safety, Gebhart began with a statement that raw milk is uniquely safe and that it "contains multiple, redundant systems of bioactive components that can reduce or eliminate populations of pathogenic bacteria." Expanding on this theme, Dr. Gebhart spoke of enzymes such as lysozyme and lactoperoxidase, lactoferrin (which sequesters iron), antibodies and other substances involved in immune system function, and various molecules that bind to bacteria and prevent their attachment to the gut lining.

Comparative components

Next, Dr. Gebhart displayed a table which listed 14 such components and compared the presence of each across four food categories: human breast milk, raw cows' milk, pasteurized cows' milk and infant formula. The pasteurized milk and infant formula showed inactivation or reduction of each of the fourteen bioactive components.

Are these components important? At this point and throughout his talk, Dr. Gebhart stressed that people need information so that they can make informed decisions about their own health. The source of his empathy with the lay public became clear as he shared his own story. Dr. Gebhart, now 45 years old and a raw-milk drinker for more than 10 years, was diagnosed with severe diverticular disease at the age of 32. The treatment recommended by conventional medicine involved surgery to remove the affected bowel segment and thereafter the wearing of a bag to collect stool, with the likelihood of more problems in the future.

"There is a science to medicine and also an art."

Unwilling to accept such drastic treatment, Dr. Gebhart began to look outside mainstream medicine, where he encountered numerous anecdotal reports of people suffering from chronic bowel disorders whose symptoms were greatly relieved when they began to consume raw

milk. Ultimately, Dr. Gebhart decided to try it himself.

He found what he believed was a trustworthy source and began drinking raw milk. Dr. Gebhart believes that something about the milk helped heal his colon, but he offered no mechanistic explanation for exactly how the healing occurred. Stating that his "bowel behaves differently today," he has continued to explore the plausible explanations by reading published literature and making his own observations. "There is a science to medicine," said Dr. Gebhart, "and also an art."

Fresh research needed

Dr. Gebhart said he is convinced there are significant health benefits in consuming properly produced raw milk, which he emphasized should be from animals fed a grass-based diet and come from farms that practice animal husbandry directed at keeping the cows in excellent health as well as organic farming principles. Dr. Gebhart appealed to the assembled research scientists to expand the peer-reviewed literature base on the health effects of raw milk and its components, much of which he said is decades old and somewhat dated. Chronic bowel disorders and immune system deficiency are extremely common among the general public, he said, and many sufferers get little relief from standard medicine, so more research in these areas would be most timely.

The most common cause of food-borne illness is Campylobacter best known for being a contaminant of meats. Studies have shown that when the pathogen is added to raw milk, there is actually a reduction in the the disease-causing bacteria over time.

Describing a typical day working in the emergency room, Dr. Gebhart related that people arrive daily presenting symptoms such as vomiting and cramping diarrhea: classic "food poisoning." These people must be treated symptomatically, and it is unusual for identification to be made of the exact organism and strain of microorganism responsible. The most common cause of food-borne illness is Campylobacter, he said, best known for being a common contaminant of meats. He cited studies in which the pathogen was measured in raw milk at various time points, showing a reduction over time.

As an ER doctor, Gebhart uses all the tools of modern medicine; he also recognizes that cause and effect often go unlinked. He said he remains skeptical of conclusions drawn following investigations of food-poisoning outbreaks where findings of association are used rather than direct microbiological evidence with genetic identification. Conclusion by association has led Dr. Gebhart to dismiss several reports of raw milk being causative for an outbreak. He considers such conclusions unproven and unlikely. (This assertion caused another kind of outbreak, as some audience members shouted their own opinions and began to argue amongst themselves.)

Helpful microorganisms

Dr. Gebhart teaches medical microbiology to medical students and public-health graduate students, who are often surprised to learn there are normal microbial flora in the human body. As recently as the 1990s, he said, the medical profession was saying that human breast milk was sterile. It is now known that breast milk contains microorganisms and that a suckling newborn will be exposed to bacteria. "Could there be a pathogen on that nipple?" he asks rhetorically. "There sure could."

We know the presence of bacteria, even pathogenic bacteria, does not always necessarily cause disease, but we don't yet know why. Dr. Gebhard says we need more research to answer this question.

Since we know that the presence of bacteria, even pathogenic bacteria, does not always or necessarily cause disease, there should be more research into why that is, in Dr. Gebhart's view. He said banning raw milk, which contains the normal microflora of the healthy animal, is counterproductive.

An interesting dimension of Dr. Gebhart's outlook is his conviction that a person who wants to follow up on popular media reports should find the original scientific papers and read them. "Look to the original source," he advised. "Only then can you make a decision about the quality of the information." He believes that an intelligent lay person can read such material and draw conclusions from it.

While offering counterpoints to some official publications

which paint all raw milk with an unfavorable broad brush, Gebhart acknowledged that food handling is very important and that most of the same pathways of contamination exist for raw milk as for any other food. He would like to see the public-health community promote standards intended to support raw milk safety rather writing the standards to mandate pasteurization.

Loren Muldowney holds a bachelor's degree in biochemistry and a master's degree in soils and water from Rutgers University, where she is continuing studies in sustainable agriculture. Her backyard is home to nine compost units, several organic gardens and is a certified wildlife habitat.

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Though raw milk is good for

Submitted by Anonymous (not verified) on Mon, 03/16/2009 - 11:23.

Though raw milk is good for the immune system, I'm not sure that everyone will agree with how it tastes. Especially toddlers, seeing that they are very picky in what they eat based on flavor and appearance.

»

reply

I believe raw milk (and

Submitted by **Compartment Syndrome** (not verified) on Thu, 02/19/2009 - 10:53.

I believe raw milk (and fresh vegetables and organic beef and pork, winter and summer) is what built my body to a level of health that has kept me healthy through the years.

»

reply

It would seem obvious that

Submitted by **Mike Crabe** (not verified) on Thu, 01/29/2009 - 08:15.

It would seem obvious that raw milk would contain antibodies and various other elements to enhance immune system function. This is surely how mammalian species protect the health of their offspring.

Well I couldnt agree with you more because I was taught this in my school of biology and we had one class specially aimed at this subject. Mike from **sailing dinghy guide**, this is my personal site.

»

reply

More research is needed for

Submitted by **Jenny Keller** (not verified) on Tue, 01/13/2009 - 16:58.

More research is needed for raw milk, but you just never know how the antibodies will react with human antibodies. But you know people had been drinking for thousands of years so it cant be that bad for you !

»

reply

raw mile

Submitted by **apartment houston** (not verified) on Tue, 12/23/2008 - 16:55.

i always heard that milk was bad for you

however,

there is so much money backing the milk farmers that the truth will probably never com out, interesting article though

»

reply

BRAVO! Let's get after

Submitted by Victort Markiewicz (not verified) on Sun, 08/10/2008 - 09:47.

BRAVO!

Let's get after Chemical Ali AKA "FDA" and make them think...is it possible... well in time it will happen .We are product of biology not chemistry.Chemistry will distroy humen completly and its distuction is seen everywhere (obesity is one) and this is next frontier for our Lawyers and it is BONANZA!

Thank you

»

reply

article picture

Submitted by pete (not verified) on Thu, 08/07/2008 - 20:59.

Whose cow is that in the accompanying picture? It is good practice to include captions and photo credits in story photos.

»

reply

Lasting Effects of Raw Milk

Submitted by Anonymous (not verified) on Mon, 07/21/2008 - 23:27.

I am now 67 and grew up in rural Maryland drinking almost exclusively raw milk because I lived both on and across from a farm. I did not miss a day of school through the 12th grade due to illness. In college, the same pattern repeated itself (though I could not get raw milk in the big city). As a former teacher of 30 years, I almost never was absent due to illness--to the consternation of my students. I believe raw milk (and fresh vegetables and organic beef and pork, winter and summer) is what built my body to a level of health that has kept me healthy through the years. I advocate for raw milk and wish it would be readily available, but from grass-fed, antibiotic-free and otherwise organically-fed cows.

»

reply

Stands to reason

Submitted by Ian Campbell (not verified) on Thu, 07/17/2008 - 20:24.

It would seem obvious that raw milk would contain antibodies and various other elements to enhance immune system function. This is surely how mammalian species protect the health of their offspring.

»

reply

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