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SundayReview | OPINION

Zika: The Millennials' S.T.D.?

By KELLY MCBRIDE FOLKERS AUG. 20, 2016

I am a millennial; half my peers are single and on Tinder, half are getting ready to start families. I'm also a scientist, working toward a master's degree in bioethics. And I am more and more worried about Zika.

This summer, I co-wrote a guide for travelers to Rio de Janeiro about how to stay healthy in a place where Zika infection is common. After the Olympics' closing ceremony, I worry that Americans will stop paying attention to the virus. They shouldn't. Last month, a Miami hospital treated the first American known to have been infected locally, instead of while traveling abroad. On Thursday, a new cluster of Zika infections was reported in Miami Beach.

One of the scariest things about Zika is that it can be transmitted both by mosquitoes and by sex — vaginal, oral and anal. In the history of epidemics, it is unprecedented for a virus to be spread through an insect vector and sexually. It means that Zika could continue to infect people after the mosquitoes go away. My generation in particular should be concerned, because the devastating birth defects Zika causes are a threat to our ability to have healthy children.

We need to think about this in terms of a new sexually transmitted disease, one that is especially hard to combat because 80 percent of infections don't cause symptoms, and both men and women can carry the virus for months.

One statistic epidemiologists use to measure the potential spread of an infectious disease is a value called the basic reproduction number — an estimate of how many people you are likely to infect if you get sick. If the number is less than 1,

it is expected that the pathogen, unable to find a suitable host, will eventually die out. If it is greater than 1, the pathogen will continue to spread, causing more disease.

The basic reproduction number for the seasonal influenza virus is estimated to be around 1.3, which means that in the week that you have the flu, statistically, you are likely to infect one or two people. The basic reproduction number for H.I.V. is between 2 and 5.

Clearly, these are not hard-and-fast numbers. You will infect no one if you have no contact with another human being. You will most likely infect more than two people with the flu if you sneeze in a crowded subway car, just as you will most likely infect more than five people with H.I.V. if you have frequent unprotected sex.

Zika is a more difficult virus to understand because it is both a mosquito-borne infection and sexually transmissible. The basic reproduction number is cause for concern — a recent study of Zika's spread in Colombia estimated a range between 3 and 6.6, and other studies have produced similar results.

It's virtually impossible to determine how many of the cases were sexually transmitted, because the studies were done in areas of the world where mosquitoes are known to carry Zika. One mathematical model has estimated that around 3 percent of Zika infections are from sex. But the basic reproduction number for dengue fever, a disease caused by a virus similar to Zika that is spread almost exclusively through mosquito bites, is around 3. The difference suggests that sexual transmission is likely to be a significant contributor to the Zika virus's spread.

Unlike with H.I.V. and other well-known S.T.D.s, it's not *us* who will be affected primarily. Zika symptoms are usually mild, if you have any at all. It's our future children we have to worry about.

One of the few things about Zika we can say for certain is that it can cause severe neurological defects in developing fetuses — primarily a stunting of the skull and brain called microcephaly — and can do so at any time during a pregnancy. An expert who looked at the brain scans of infants with this condition whose mothers

had Zika said the babies could not be expected to live very long, and might never be able to recognize their parents.

Some of my friends are getting nervous, and rightfully so. One friend, who recently bought a house in New York State with a stream in her backyard and would like to have a baby, doesn't know if she should try to get pregnant if Zika breaks out farther north. A classmate who has kids and wants to have another baby in the next few years is hesitant to go on a family vacation to Disney World in Florida.

Of course, these fears rest on the assumption that nothing will be done to stop Zika's spread. The Food and Drug Administration has approved the use, in the Florida Keys, of male mosquitoes genetically modified to carry a deadly gene that would be passed on to future generations, reducing the population. But the local mosquito control board still needs to agree to their release. The National Institute of Allergy and Infectious Diseases has just begun the first human trials to develop a Zika vaccine. But the vaccine won't be available for at least another two years. Congress has yet to pass a bill that would allocate $1.1 billion to fighting Zika.

Until then, we should focus on what we can control. We can choose to use condoms or, to be extra cautious, not to have sex at all, to wear bug spray every time we go outside and to consider postponing having a baby until the Zika vaccine is available. We can also fight to keep hard-won reproductive freedoms safe from those who want to limit them; no one should be forced to carry neurologically devastated babies to term.

The millennial generation needs to take the lead in thinking about what we are going to do if Zika persists in the next few years. This is not some tropical infection that matters only abroad; we should view it more as an S.T.D. that any of us could catch. Everyone who might have a child needs to take this seriously.

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