



Preventing Zika Virus in Puerto Rico

Maternal Use of Protective Measures



Background

Zika virus (Zika) is primarily spread by the bite of a mosquito infected with the virus, but can also be passed during sex from a person infected with Zika to his or her sexual partner. Because the mosquitoes that spread Zika are found throughout Puerto Rico, people living on the island who have not already been infected are at risk for infection.¹ A pregnant woman with Zika can also pass the virus to her fetus, which can cause microcephaly, brain abnormalities, and other severe birth defects.²

To evaluate whether pregnant women understood how to protect themselves against Zika, the Puerto Rico Department of Health (PRDH) and the Centers for Disease Control and Prevention (CDC) worked together to conduct a population-based survey of women who gave birth to a live infant during August–December 2016.

PRAMS—Zika Postpartum Emergency Response Survey (PRAMS-ZPER)

The Pregnancy Risk Assessment Monitoring System—Zika Postpartum Emergency Response (PRAMS-ZPER) survey* asked women about their use of recommended measures to prevent Zika virus infection during their pregnancy.

Most ZPER respondents:

- Were somewhat or very worried about getting Zika during their pregnancy (93%)
- Were somewhat or very worried about microcephaly or another Zika-related birth defect in baby (92%)

Although there are no known ways to prevent the adverse effects of Zika during pregnancy, there are several ways pregnant women and their families can protect themselves from Zika.³

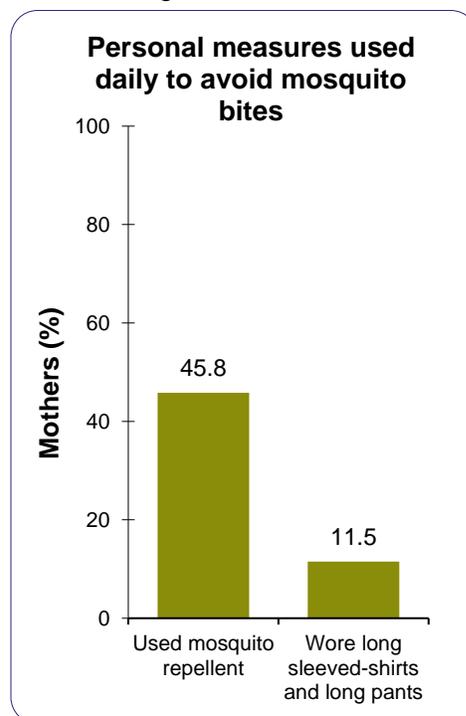
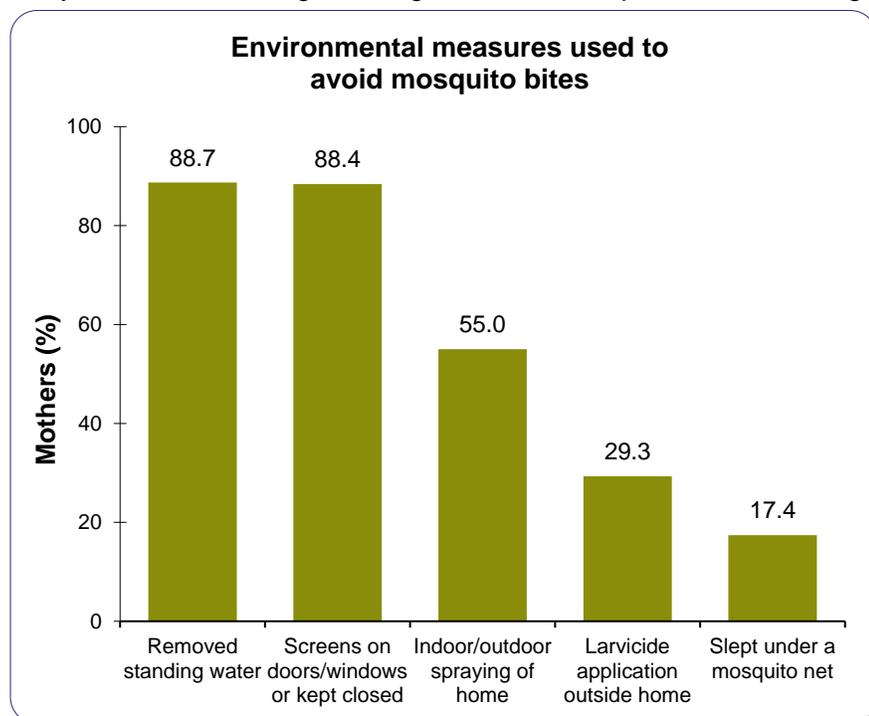
CDC Zika Prevention Recommendations³⁻⁵

Environmental Protective Measures to Avoid Mosquito Bites	<ul style="list-style-type: none"> • Use screens on doors and windows. • Keep unscreened doors and windows closed. • Once a week, empty and scrub, turn over, cover, or throw out any items that hold water. • Use air conditioning when possible. • Sleep under a mosquito bed net if air conditioned or screened rooms are not available. • Kill mosquitoes inside your home. Use an indoor insect fogger or indoor insect spray to kill mosquitoes and treat areas where they rest. • Use an outdoor insect spray made to kill mosquitoes in areas where they rest. • Use larvicides to treat large containers of water that will not be used for drinking and cannot be covered or dumped out.
Personal Protective Measures to Avoid Mosquito Bites	<ul style="list-style-type: none"> • Use Environmental Protection Agency (EPA)-registered insect repellent on exposed skin and reapply as directed. • Wear long-sleeved shirts and long pants.
Measures to Prevent Passing Zika During Sex	<ul style="list-style-type: none"> • Do not have sex, or • If sexually active, use condoms from start to finish every time during vaginal, anal, and oral sex and the sharing of sex toys



Zika Prevention: Preventing Mosquito Bites

Preventing mosquito bites is one way to prevent Zika. Mosquito bites can be prevented by keeping mosquitoes away from homes, using EPA-registered insect repellent and wearing protective clothing.³



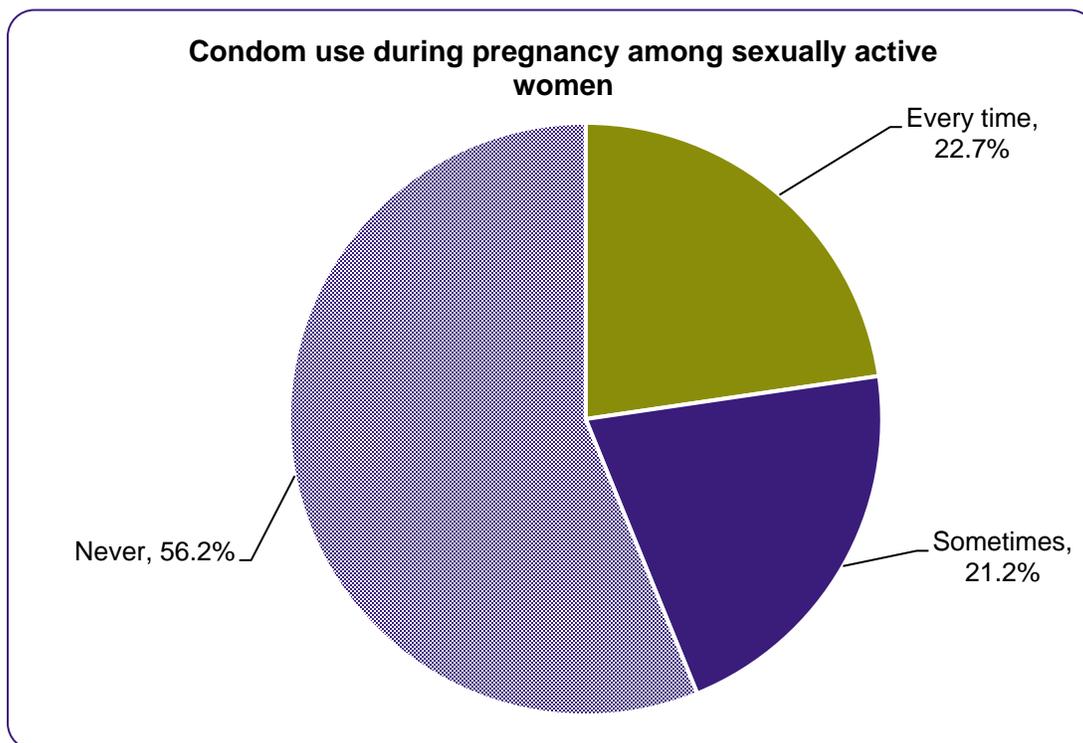
Respondent Reasons for Not Using Mosquito Bite Prevention Strategies

Reasons women did not wear mosquito repellent	% (95% Confidence Interval)
I forgot to apply/reapply it	51.4 (49.4-53.4)
I did not like the way it smelled	18.8 (17.3-20.4)
I worried about the chemicals in the repellent harming my baby	15.3 (13.9-16.9)
I did not like the way it made my skin feel	11.8 (10.6-13.1)
I worried about the chemicals in the repellent harming me	5.8 (4.9-6.8)
I was indoors	2.7 (2.1-3.5)
Mosquito repellent was too expensive	2.5 (1.9-3.2)
I have an allergy	1.4 (1.0-1.8)
Some other reason	7.9 (6.9-9.0)

Reasons women did not wear long sleeves and pants	% (95% Confidence Interval)
It was too hot to wear long sleeves or long pants	76.4 (74.7-78.0)
My clothes with long sleeves or long pants no longer fit because of pregnancy	19.7 (18.1-21.3)
I did not have clothes with long sleeves or long pants	4.7 (4.0-5.7)
I was indoors	2.1 (1.6-2.8)
Some other reason	5.3 (4.5-6.2)

Zika Prevention: Avoiding Sexual Transmission

Zika can be spread through sex, even when the person with Zika does not have symptoms.⁴ Pregnant women and their partners should use condoms from start to finish every time during vaginal, anal, and oral sex and the sharing of sex toys, or they should abstain from sex during the pregnancy.⁶ Most respondents (80%) reported being sexually active during pregnancy.

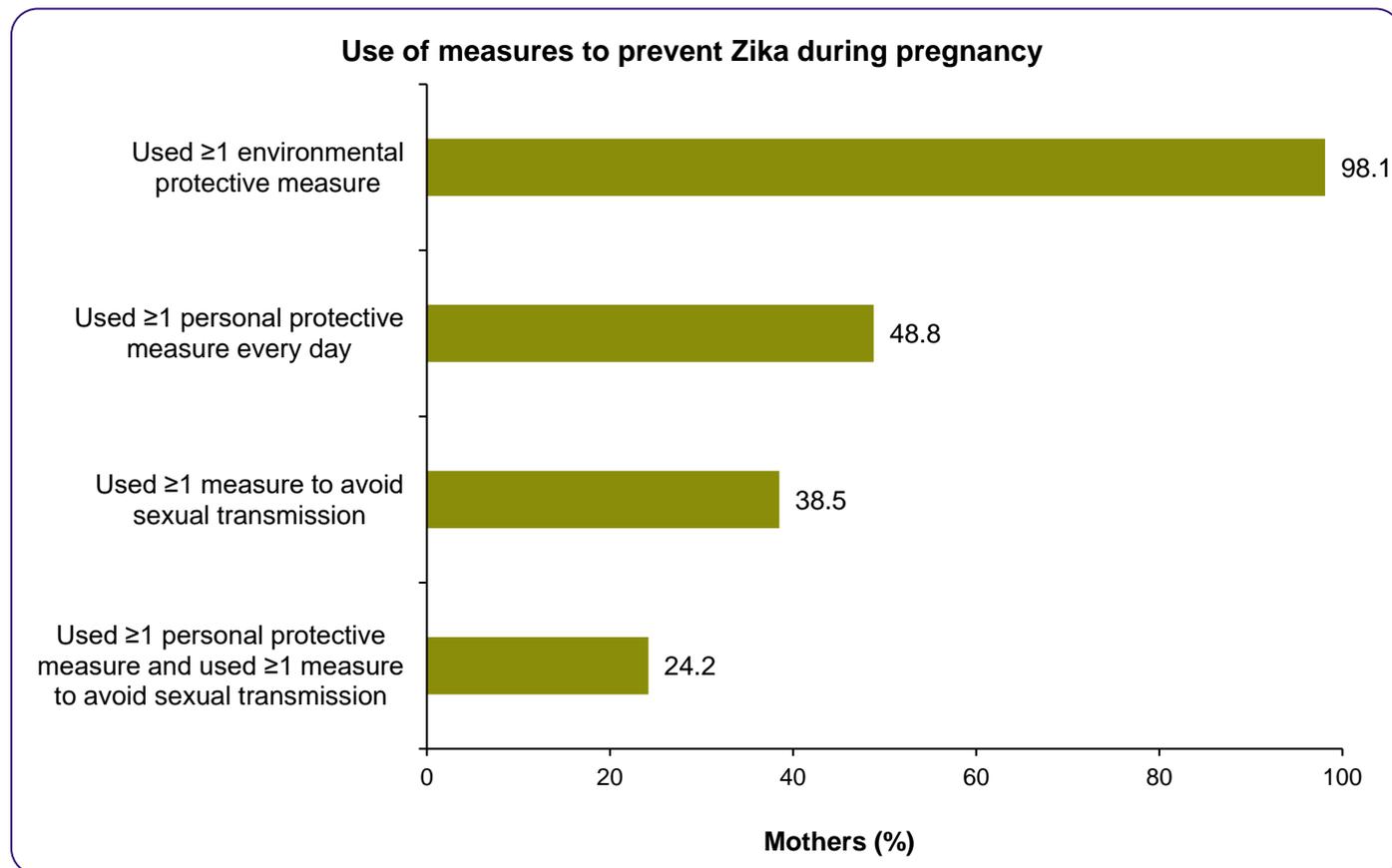


Respondent Reasons for Not Using Strategies to Prevent Sexual Transmission

Reasons for not using condoms every time when having sex**	% (95% Confidence Interval)
I didn't think my partner had Zika virus	37.4 (35.0-39.9)
I didn't think I needed to use condoms during pregnancy	31.8 (29.5-34.3)
I didn't want to use condoms	20.1 (18.2-22.2)
I forgot to use condoms	12.2 (10.6-13.9)
My partner didn't want to use condoms	11.0 (9.5-12.7)
I didn't know you could get Zika virus from having sex	7.3 (6.0-8.9)
I didn't think a condom would prevent Zika infection	4.7 (3.7-6.0)
I was not worried about getting the Zika virus	3.1 (2.3-4.2)
I could not get condoms when I needed them	2.3 (1.7-3.2)
Allergy	2.1 (1.5-3.0)
I could not afford condoms	1.6 (1.0-2.4)
Some other reason	7.1 (6.0-8.5)

** Only among women who were sexually active during pregnancy

Summary of Maternal Use of Protective Measures



Public Health Action

- Prevention messaging that focuses on reminders to use EPA-registered insect repellent and the safety of repellent use during pregnancy could be helpful, as less than 50% of women reported daily use of insect repellent during pregnancy and few reported wearing protective clothing daily.
- Evaluation of counseling, messaging, and barriers to adhering to recommendations about preventing sexual transmission of Zika are needed to ensure that risk of Zika virus infection from sex during pregnancy is clearly understood by women and their male partners.

Resources:

***PRAMS-ZPER Results:** https://www.cdc.gov/mmwr/volumes/66/wr/mm6622a2.htm?s_cid=mm6622a2_e

Questions About Zika: <https://www.cdc.gov/zika/about/questions.html>

Prevent Mosquito Bites: <https://www.cdc.gov/zika/prevention/prevent-mosquito-bites.html>

Sexual Transmission & Prevention: <https://www.cdc.gov/zika/prevention/protect-yourself-during-sex.html>

Zika Virus, Print Resources: <https://www.cdc.gov/zika/fs-posters/index.html>

References:

1. Zika Virus: Overview: <https://www.cdc.gov/zika/about/overview.html>
2. Zika Virus: Transmission & Risks: <https://www.cdc.gov/zika/transmission/index.html>
3. Zika Virus: Protect Yourself & Others: <https://www.cdc.gov/zika/prevention/protect-yourself-and-others.html>
4. Zika Virus: Sexual Transmission & Prevention: <https://www.cdc.gov/zika/prevention/protect-yourself-during-sex.html>
5. Zika Virus: Controlling Mosquitos at Home: <https://www.cdc.gov/zika/prevention/controlling-mosquitoes-at-home.html>
6. Zika Virus: Women & Their Partners Trying to Become Pregnant: <https://www.cdc.gov/zika/pregnancy/women-and-their-partners.html>

For more information on PRAMS go to: <https://www.cdc.gov/prams/>

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