misidentified as *C. haemulonii*, *C. famata*, *C. albicans*, or *C. tropicalis*, depending on the method used in the hospital. The identification of isolates by MALDI-TOF mass spectrometry has also been described in the literature as an adequate and fast method for identifying *C. auris* (*7*).

Because the Clinical and Laboratory Standards Institute does not currently provide breakpoints for *C. auris*, no categorical interpretation of results is available; thus, only the MICs obtained for antifungal drugs tested in our study were indicated (Table). Although misleading, elevated MICs of amphotericin B by VITEK card have been previously described (*7*); this study also found discrepancies with Etest strips, which could lead to the selection of inappropriate therapy if only 1 method is used.

The presence of *C. auris* in these patients has clinical and epidemiologic implications, considering the associated mortality rate confirmed in this report and the absence of sufficient technology in clinical laboratories both to confirm their identification and to carry out testing for antifungal susceptibility. The lack of suitable diagnostics complicates patient treatment and changes on the empiric treatment of invasive *Candida* spp. infections are needed.

Our data contributes to the knowledge of the epidemiology of this species at a regional level. Although we had already reported *Candida* spp. in Colombia (*8*), no information regarding these species on the Caribbean coast is available. Given the association of *Candida* spp. with outbreaks in hospitals, according to the Centers for Disease Control and Prevention, it is necessary to further strengthen measures for fungal infection control to prevent possible spread.

Acknowledgments

We thank Laura Marcela Ramirez and Juan Sebastian Monroy for their technical support and Heidy Pinzón, Kelin Esquea, Liliana Gómez, Alba Mosquera, Yiceth Acosta, Yenixa Fuentes, Leandro Narváez, Luis Rodrigo Ramírez, and Sindy Jiménez for providing the isolates.

Ms. Morales-López is a bacteriologist and doctoral candidate in the Microbiology program at the Universidad de Buenos Aires, Argentina. She works as an associate teacher of medical microbiology at Universidad Popular del Cesar in Valledupar, Colombia. Her areas of interest are medical microbiology and antimicrobial drug resistance.

References

1. Calvo B, Melo ASA, Perozo-Mena A, Hernandez M, Francisco EC, Hagen F, et al. First report of *Candida auris* in America: clinical and microbiological aspects of 18 episodes of candidemia. J Infect. 2016;73:369–74. http://dx.doi.org/10.1016/j.jinf.2016.07.008
2. Chowdhary A, Sharma C, Duggal S, Agarwal K, Prakash A, Singh PK, et al. New clonal strain of *Candida auris*, Delhi, India. Emerg Infect Dis. 2013;19:1670–3. http://dx.doi.org/10.3201/eid1910.130393
3. Emara M, Ahmad S, Khan Z, Joseph L, Al-Obaid I, Purohit P, et al. *Candida auris* candidemia in Kuwait, 2014. Emerg Infect Dis. 2015;21:1091–2. http://dx.doi.org/10.3201/eid2106.150270
4. Lee WG, Shin JH, Uh Y, Kang MG, Kim SH, Park KH, et al. First three reported cases of nosocomial fungemia caused by *Candida auris*. J Clin Microbiol. 2011;49:3139–42. http://dx.doi.org/10.1128/JCM.00319-11
5. Satoh K, Makimura K, Hasumi Y, Nishiyama Y, Uchida K, Yamaguchi H. *Candida auris* sp. nov., a novel ascomycetous yeast isolated from the external ear canal of an inpatient in a Japanese hospital. Microbiol Immunol. 2009;53:41–4. http://dx.doi.org/10.1111/j.1348-0421.2008.00083.x
6. Magobo RE, Corcoran C, Seetharam S, Govender NP. *Candida auris*–associated candidemia, South Africa. Emerg Infect Dis. 2014;20:1250–1. http://dx.doi.org/10.3201/eid2007.131765
7. Kathuria S, Singh PK, Sharma C, Prakash A, Masih A, Kumar A, et al. Multidrug-resistant *Candida auris* misidentified as *Candida haemulonii:* characterization by matrix-assisted laser desorption ionization-time of flight mass spectrometry and DNA sequencing and its antifungal susceptibility profile variability by Vitek 2, CLSI broth microdilution, and Etest method. J Clin Microbiol. 2015;53:1823–30. http://dx.doi.org/10.1128/JCM.00367-15
8. Parra C, LePape P, Ceballos A, Cortes G, Alvarez-Moreno C, Valderrama S, et al. Performance of MALDI-TOF MS for the identification of emerging yeast of hospital patients, species distribution, in a third level hospital Bogotá-Colombia. In: Abstracts of the 26th European Congress of Clinical Microbiology and Infectious Diseases; Amsterdam; 2016 Apr 9–12. Abstract 5556. Basel: European Congress of Clinical Microbiology and Infectious Diseases; 2016.

Address for correspondence: José Y. Rodríguez, Centro de Investigaciones, Microbiológicas del Cesar (CIMCE), Calle 16c no 19d-14 Barrio Dangond, Valledupar, Colombia; email: jyrodriguezq@gmail.com

Zika Virus Knowledge among Pregnant Women Who Were in Areas with Active Transmission

Kate Whittemore, Anna Tate, Alex Illescas, Alhaji Saffa, Austin Collins, Jay K. Varma, Neil M. Vora

Author affiliations: New York City Department of Health and Mental Hygiene, New York, New York, USA (K. Whittemore, A. Tate, A. Illescas, A. Saffa, A. Collins, J.K. Varma, N.M. Vora); Centers for Disease Control and Prevention, Atlanta, Georgia, USA (J.K. Varma, N.M. Vora)

DOI: http://dx.doi.org/10.3201/eid2301.161614

We surveyed women in New York, New York, USA, who were in areas with active Zika virus transmission while pregnant. Of 99 women who were US residents, 30 were

unaware of the government travel advisory to areas with active Zika virus transmission while pregnant, and 37 were unaware of their pregnancies during travel.

Zika virus is primarily transmitted by the bite of infected *Aedes* mosquitoes; the virus can also cross the placenta of infected pregnant women, potentially leading to congenital infection and serious birth defects (*1–3*). As of October 7, 2016, a total of 617 cases of Zika virus infection had been identified among New York City (NYC) residents, including 72 cases among pregnant women (*4*).

Despite government advisories in place since early 2016 recommending that pregnant women avoid travel to areas with active Zika virus transmission (*4,5*), the NYC Department of Health and Mental Hygiene (DOHMH) saw an increase in weekly Zika virus test requests through the summer for women who had been in such areas while pregnant. This increase alerted the DOHMH to the need for additional messaging. To guide this communication, we conducted telephone surveys to evaluate Zika virus knowledge and practices among women in NYC who had been in such areas while pregnant.

In brief, during June 1–July 15, 2016, the DOHMH Zika Testing Call Center facilitated testing for 1,086 women ≥18 years of age because they were pregnant while in an area with active Zika virus transmission (*6*) (online Technical Appendix, https://wwwnc.cdc.gov/EID/article/23/1/16-1614-Techapp1.pdf). At the time of receiving the Zika virus test request, DOHMH collected demographic data, contact information and other pertinent clinical history on the patients; these 1,086 women were potentially eligible for the survey if their telephone number had been provided. The women were called in random order until ≈100 provided consent and completed the survey. Descriptive statistics were calculated for responses to each survey question.

After 642 eligible women had been called, the target number of respondents had provided consent and completed the survey (n = 121; 18.8%); 67 (55.4%) respondents were interviewed in Spanish. We found no statistically significant differences in demographic characteristics between respondents and nonrespondents (online Technical Appendix Table).

Of the 121 respondents, 99 (81.8%) were US residents (considered the United States their home). Approximately one third of the US residents (n = 30; 30.6%) were unaware of the government advisory (recommending that pregnant women avoid travel to areas with active Zika virus transmission) at the time of travel (Table). Nearly half (n = 43; 44.3%) did not know that there was active Zika virus transmission in areas where they traveled, and more than one third (n = 37; 38.5%) did not know that they were pregnant during travel. Of the 30 US residents who were aware of the government advisory, were aware of active Zika virus transmission in areas where they traveled, and knew that they were pregnant during travel, 7 (23.3%) still traveled because their trips were too expensive to cancel. Of 6 US residents who did not know about the government advisory but did know of active Zika virus transmission in areas where they traveled and did know that they were pregnant during travel, 5 (83.3%) said they would not have traveled had they known about the government advisory. The most frequently reported reason for travel among US residents was to visit friends or relatives (n = 68; 70.1%).

Among the women we surveyed, many were unaware of the government travel advisory, unaware of active Zika virus transmission in areas where they traveled, or unaware of their pregnancy during travel. However, our survey had limitations. The small sample size limited our ability to perform sophisticated analyses, and the potential for social desirability and recall bias are inherent to the study design. The survey questionnaire was not a validated instrument. Also, the women described here completed the survey after Zika virus testing; therefore, it is possible that they had a better understanding than the general public.

Most participants in our survey were interviewed in Spanish. This finding underscores the need for providing educational materials in multiple languages.

Although our findings cannot be generalized, they provide insight for increased and improved public health messaging. Public health authorities in the United States should continue to raise awareness among women of reproductive age about the risk for Zika virus infection from travel,

Table. Knowledge about Zika virus infection among US residents who were pregnant at time of travel to areas with active Zika virus transmission, New York, NY, USA, June 1–July 15, 2016*

Characteristic	Total responses	Yes (%)*	No (%)*
Aware of government travel advisory at time of travel to areas with active Zika virus transmission	98	68 (69.4)	30 (30.6)
Aware that areas of travel had active Zika virus transmission	97	54 (55.7)	43 (44.3)
Aware of pregnancy status at time of travel to areas with active Zika virus transmission	96	59 (61.5)	37 (38.5)
Reason for travel			
Visiting friends or relatives	97	68 (70.1)	29 (29.9)
Tourism	97	52 (53.6)	45 (46.4)
Other	87	24 (27.6)	63 (72.4)
Business	97	5 (5.1)	92 (94.9)
Education	97	5 (5.1)	92 (94.9)
Service-related	97	4 (4.1)	93 (95.9)

*Column percentages do not total 100% because categories are not mutually exclusive. Denominator includes only those respondents who answered the question.

enabling them to better make informed decisions. Women who are trying to become pregnant or who are pregnant should avoid travel to areas with active Zika virus transmission and, if they must travel, should talk to their healthcare provider first and take steps to minimize exposure to Zika virus. Furthermore, women who are trying to become pregnant should follow Centers for Disease Control and Prevention (Atlanta, GA, USA) guidelines on how long to wait to get pregnant after a potential Zika virus exposure (*7*). Women who want to avoid pregnancy and their male partners should use effective birth control correctly and consistently (*8*). Healthcare providers in the United States caring for pregnant women and women who are trying to become pregnant should routinely discuss travel history and travel plans with their patients.

Acknowledgments

We thank all women who participated in the survey for their cooperation and DOHMH staff involved with the Zika Testing Call Center.

Ms. Whittemore is an Emerging Infectious Disease Epidemiologist at the New York City Department of Health and Mental Hygiene. Her primary research interests are in vaccine-preventable diseases, emergency management, and access to healthcare.

References

1. Centers for Disease Control and Prevention. Zika virus [cited 2016 Jul 20]. http://www.cdc.gov/zika/about/index.html
2. Rasmussen SA, Jamieson DJ, Honein MA, Petersen LR. Zika virus and birth defects—reviewing the evidence for causality. N Engl J Med. 2016;374:1981–7. http://dx.doi.org/10.1056/NEJMsr1604338
3. Oduyebo T, Igbinosa I, Petersen EE, Polen KN, Pillai SK, Ailes EC, et al. Update: interim guidance for health care providers caring for pregnant women with possible Zika virus exposure—United States, July 2016. MMWR Morb Mortal Wkly Rep. 2016;65:739–44. http://dx.doi.org/10.15585/mmwr.mm6529e1
4. New York City Department of Health and Mental Hygiene. Zika virus [cited 2016 Oct 20]. https://www1.nyc.gov/site/doh/health/health-topics/zika-virus.page
5. Centers for Disease Control and Prevention. Zika travel information [cited 2016 Jul 20]. http://wwwnc.cdc.gov/travel/page/zika-travel-information
6. Lee CT, Vora NM, Bajwa W, Boyd L, Harper S, Kass D; NYC Zika Response Team. Zika virus surveillance and preparedness—New York City, 2015–2016. MMWR Morb Mortal Wkly Rep. 2016;65:629–35. http://dx.doi.org/10.15585/mmwr.mm6524e3
7. Centers for Disease Control and Prevention. Women trying to become pregnant [cited 2016 Jul 20]. http://www.cdc.gov/zika/pregnancy/women-and-their-partners.html
8. Centers for Disease Control and Prevention. Women of reproductive age [cited 2016 Jul 20]. http://www.cdc.gov/zika/hc-providers/contraception.html.

Address for correspondence: Neil M. Vora, New York City Department of Health and Mental Hygiene 42-09 28th St, Long Island City, NY 11101, USA; email: nvora@cdc.gov

Multidrug-Resistant Pathogens in Hospitalized Syrian Children

Diana Faour Kassem, Yoav Hoffmann, Naama Shahar, Smadar Ocampo, Liora Salomon, Zeev Zonis, Daniel Glikman

Author affiliations: Galilee Medical Center, Nahariya, Israel (D. Faour Kassem, Y. Hoffmann, N. Shahar, S. Ocampo, L. Salomon, Z. Zonis, D. Glikman); Bar-Ilan University, Safed, Israel (Y. Hoffmann, D. Glikman)

DOI: http://dx.doi.org/10.3201/eid2301.161204

Since 2013, wounded and ill children from Syria have received treatment in Israel. Screening cultures indicated that multidrug-resistant (MDR) pathogens colonized 89 (83%) of 107 children. For 58% of MDR infections, the pathogen was similar to that identified during screening. MDR screening of these children is valuable for purposes of isolation and treatment.

As the civil war in Syria enters its sixth year, the United Nations estimates that ≈250,000 persons have been killed, ≈10,000 of them children (*1*). Preliminary reports indicate a high rate of multidrug-resistant (MDR) pathogen carriage among refugees from Syria, mostly adults (*2–5*). Preliminary data for 29 wounded Syrian children indicate that 66% carried extended-spectrum β-lactamase–producing *Enterobacteriaceae* (ESBL) (*2*).

For ≈3 years, Syrian children who were ill or severely wounded from the civil war have been secretly transported across the border for treatment in Israel, mainly at Galilee Medical Center (GMC; Nahariya, Israel). We characterized carriage of and infections with MDR pathogens among these children.

We prospectively collected demographic and clinical microbiology data for all Syrian children 0–17 years of age who were admitted to GMC during March 2013–February 2016. At admission, contact isolation and screening cultures for MDR were conducted. MDR pathogens belonged to 1 of 5 groups: ESBL, carbapenem-resistant *Enterobacteriaceae* (CRE), methicillin-resistant *Staphylococcus aureus*, MDR *Acinetobacter baumannii* (MDR-AB), and vancomycin-resistant *Enterococcus*. Culture sites included nares, axilla, groin, rectum, and open wounds. Bacterial identification and susceptibility testing were performed according to Clinical and Laboratory Standards Institute guidelines (http://clsi.org/standards/micro/). For CRE screening, we used CHROMagar plates (hylabs, Rehovot, Israel).