

ID CONSULT

Travel Medicine

With vacation season approaching, some of our patients' families may be planning travel to areas where they could be exposed to different infectious diseases and other health risks not commonly encountered in the United States. Even more challenging, they won't necessarily mention their plans until the last minute unless you ask.

Today more than ever, travel involves arrival at an international destination. According to the U.S. Office of Travel & Tourism Industries, about 30 million Americans traveled internationally in 2009. Of those, about 8%-9%, or 2.4 million, were children. In 2010, the United Nations World Tourism Organization reported a 7% overall increase in international travel.

Increasingly, children are traveling with parents to visit friends and extended family members in Africa, Asia, and Central and South America, while a growing number of American adolescents are traveling to resource-limited areas doing volunteer work, adventure travel, staying with host families, or as part of religious or civic groups. Opportunities for children and adolescents with chronic medical conditions who travel are associated with additional concerns that are directly related to their underlying condition, susceptibility, and potential interventions.

Unfortunately, health precautions often are simply not on the minds of many people as they make their travel arrangements. While most people plan international trips about 90 days in advance, they often will wait until the last minute to seek advice on immunizations, preventive medications, and other precautions – if they think to do so at all.

This is the case even for families with children. This was revealed in a recent eye-opening study conducted by the GeoSentinel Surveillance Network, a global surveillance network composed of 49 travel/tropical medicine clinics on six continents. The network has previously

reported on illnesses in adults (*N. Engl. J. Med.* 2006;354:119-30).

The study, the first comprehensive analysis of pediatric travel illness, examined data for 1,591 children and 32,668 adults seen at a GeoSentinel clinic. To be included in the database, persons had to have crossed an international border within 10 years and have a laboratory-confirmed or probable diagnosis. Data were collected from Jan. 30, 1997, through Nov. 30, 2007 (*Pediatrics* 2010; 125:e1072-80).

For both children and adults, the three most common world regions visited were Asia, sub-Saharan Africa, and Latin America. While ill adults were more likely than children to have visited Asia, more ill children presented after travel to Europe and the Middle East/North Africa.

Tourism was the most common reason for travel among both children and adults, but children were more likely than adults to be a "VFR," or "visiting friends and relatives." Importantly, this and other studies have demonstrated significantly increased health risks among VFR travelers who typically stay in private homes and in less-developed areas, compared with vacationers or adult business travelers who are more likely to be staying in hotels and in urban areas.

In the GeoSentinel study, ill children aged 0-17 years presented earlier than ill adults, required hospitalization more often, had shorter duration of travel, and were less likely to have received medical advice prior to travel. And, in what the authors deemed "alarming," only half of all the ill non-VFR pediatric travelers (51%) and one-third of those who were VFR (32%) had received pretravel medical advice, compared with nearly two-thirds of the non-VFR adults (59%).

The spectrum of illness also differed considerably between children and adults. The most common categories of illness among the children were diarrheal (28%), dermatologic (25%), systemic febrile

(23%), and respiratory (11%). Vaccine-preventable infections accounted for 2% (38) of the diagnoses.

Dermatologic syndromes, animal bites, cutaneous larvae migrans, and respiratory disorders were significantly more common in children than adults, while adults had a significantly higher proportion of nondiarrheal gastrointestinal disorders.

Interestingly, of the 390 children with dermatologic disorders, the two most common were animal bites (24%) and cutaneous larvae migrans (17%). While not vaccine preventable, these unfortunate occurrences can be avoided with common-sense precautions. This is also true of malaria, which accounted for 35% of the systemic febrile illnesses in 358 children. While malaria is not vaccine preventable, administration of appropriate antimalarial prophylactic medications combined with mosquito avoidance measures would decrease the chance of disease acquisition.

Not surprisingly, diagnoses differed by destination. Compared with travelers returning from Europe or North America, dermatologic diagnoses were twice as common in travelers from Latin America. Travel to the Middle East/North Africa was associated with a greater risk of diarrheal disorder, while travelers to sub-Saharan Africa and Asia experienced more systemic febrile illness.

The authors noted that while this study could not determine the reason for lack of pretravel care, it is likely that limited availability of travel-specific immunizations and medications in primary care settings was a likely factor, as well as the lack of insurance coverage for such measures and a lack of perceived risk, particularly among VFR travelers.

It can be challenging for a busy practitioner to stay abreast of the latest developments in non-routinely administered vaccines, disease outbreaks, areas of political instability, or country-specific entry requirements. However, it is important to ask parents who come from other countries if they are planning to visit their homelands and if so, when. Also, asking families with teens whether they plan on

traveling for spring break or summer can be incorporated into routine office visits.

Ideally, patients planning international travel should be referred to a travel medicine clinic 1 month prior to travel. Some vaccines take up to 2 weeks to become effective, while others such as yellow fever should be received at least 10 days prior to travel and can be administered only at government-designated sites. Many vaccines, such as those against typhoid or rabies, are not routinely available at the patient's medical home.

Counseling about strategies to avoid insect and animal bites, food and water precautions, motor vehicle and water-related accidents, and interventions as simple as wearing shoes while walking on the beach is as much a part of a pretravel evaluation as are immunizations.

International travel has become so commonplace that it behooves every primary care physician to identify a travel medicine clinic in their area that can provide pretravel advice and immunizations to their patients, and to inquire about potential international travel during patient visits. Making sure the patients' routine immunizations are up to date is another way providers can assist their patients in preparing for international travel.

Not all travel medicine clinics provide services for children, so it's a good idea to find out which ones do in your area. If you are having difficulty locating a clinic, the International Society of Travel Medicine (www.istm.org/) offers a travel clinic locator on its Web site, while the American Society of Tropical Medicine & Hygiene allows the public to look up providers who are society members (www.astmh.org/source/ClinicalDirectory/).

The Centers for Disease Control and Prevention's travel site also offers a clinic locator, as well as other resources for practitioners and travelers (www.cdc.gov/travel).

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Physician Recs Associated With Greater Infant Immunization

BY ROBERT FINN

FROM THE ANNUAL MEETING OF THE INFECTIOUS DISEASES SOCIETY OF AMERICA

VANCOUVER, B.C. – Vaccine information provided by a child's doctor was the main driver of whether infants received their immunizations on time, a study of 254 women and their infants has shown.

Compared with women who received vaccine information from other sources (such as nurses, relatives, or the Internet), women who received their information from a physician were 2.98 times more likely to have their children fully immunized by the age of 3 months, according to Gina Calarco, who announced the results during a press briefing at the meeting.

"This is very significant in that doctors play a significant role in the education of the moms for vaccine pur-

poses," said Ms. Calarco, who is project manager at Infectious Diseases and Vaccines for Quintiles, an Overland Park, Kan., contract research organization.

Of the mothers in the study, 69% agreed to have a tetanus-diphtheria-pertussis (Tdap) booster vaccine themselves post partum, and 88% of their infants were fully vaccinated by their 2-month postpartum visit, according to immunization records. Of the 31% of mothers who declined the Tdap vaccine, 85% went on to have their infants vaccinated. That difference was not statistically significant. The investigators had hypothesized that the mothers who accepted Tdap vaccinations for themselves would be more likely to get their infants fully vaccinated, but this was not the case. Advice from the child's physician, however, was a significant factor.

Investigators sent questionnaires to the mothers after the 2-month well-child visit, receiving 105 responses. Of

the mothers of fully vaccinated infants, 79% received vaccine information from a physician. Mothers of infants who were not fully vaccinated said they received vaccine information from a nurse (67%) or another source (79%).

"I think what this data overall shows is that physicians shouldn't be afraid to bring up [immunization], and should actively bring it up with their patients," Ms. Calarco said. "Having the discussion – whether the parent asks for it or not – is the important part, and giving them that education on vaccination. I don't know that there's a right or wrong way [to do this], because everyone's different and everyone takes in information differently. But I think physicians need to be confident that they're heard and that the communication with their patient is effective."

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