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Screening for Infectious Diseases in the Primary Care Setting: The First Step to Improved Outcomes

Narrator:

Welcome to CME on ReachMD. This segment, **Screening for Infectious Diseases in the Primary Care Setting: The First Step to Improved Outcomes**, is sponsored by Vindico Medical Education and provided by an educational grant from Gilead Sciences. This activity focuses on screening for infectious diseases in the primary care setting.

Your host and moderator is Dr. Jennifer Caudle, who is a family medicine physician and Assistant Professor in the Department of Family Medicine at Rowan University School of Osteopathic Medicine. Dr. Caudle will speak with Dr. Kimberly Workowski, Professor of Medicine in the Division of Infectious Diseases at Emory University.

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Dr. Caudle has nothing to disclose.

Dr. Workowski has served as consultant for AbbVie, Bristol-Myers Squibb Company, Gilead Sciences and Janssen Pharmaceuticals. She has contracted research with AbbVie, Bristol-Myers Squibb Company, and Gilead Sciences.

After listening to this activity, participants should be able to apply established screening guidelines for HIV, HCV and HBV to the timely and accurate identification of infection and review available screening methods to identify patients with HIV, HCV and/or HBV infection in a timely and accurate manner.

Dr. Caudle:

So, Dr. Workowski, welcome to ReachMD.

Dr. Workowski:

Thank you so much for inviting me.

Dr. Caudle:

So, let's first start, can you talk to us about why it is so important for primary care providers to screen for infectious diseases like HIV, viral hepatitis and sexually transmitted infections?

Dr. Workowski:

Sure. I think what's important to think about when we're thinking about these entities is that they are very widely prevalent and they can cause an incredible amount of morbidity and actually mortality, which we'll get into a little bit later. But I think first when we're thinking about this, we're thinking about consequences of things that we can do as we see a patient taking an adequate risk assessment and trying to figure out is my patient at risk for these type of infections? So, one of the things that I recommend first is to think about a risk

assessment when you've got the patient in front of you, and that is something that we go through thinking about behavioral risk factors -- what kind of behaviors is the patient engaging in that may put them at risk for infection. In particular, when we start thinking about sexually transmitted infections, HIV and, actually, hepatitis A and B and C, which can be sexually transmissible, we think about asking them particular questions, and I call those the five Ps, and that is thinking about what partners they have -- are their partners men, women or both -- what particular practices are they engaging in, what are they doing for pregnancy prevention, what type of protection are they using both for sexually transmitted diseases, hepatitis or HIV, and what past infections have they had?

And then, also, as part of this process, after taking the risk assessment, you can educate and counsel persons at risk for an infection. And, in fact, the US Public Service Task Force in their article in 2014 recommends this should be part of a primary care visit. Also, during this visit you can talk about people that are at risk, what can they do to protect themselves from developing an infection, what type of things can they do personally in terms of use of condoms, microbicides, whether or not the patient is circumcised, think about pre-exposure vaccination for things that can be preventable such as hepatitis A and B and human papilloma virus. If patients are at risk for HIV acquisition, we can talk to them about using pre-exposure prophylaxis or PrEP. And also, because many of these infections may be without symptoms, it's really important to think about screening. And we'll talk about some of the screening that we can get into for these different types of infections and syndromes.

Dr. Caudle

Dr. Workowski, let's focus on HIV screening and prevention. What should providers be thinking about in terms of the burden of HIV in the United States?

Dr. Workowski:

The recent data from the CDC shows that there's been a decline in deaths associated with HIV infection, and that was really brought about by the advent of combination antiretroviral therapy, but what the epidemiology shows us is that, unfortunately, for the past 10 to 15 years, there's been a continued steady stream of incident infections that haven't really changed. If we look at the epidemiology of the epidemic, what we see is that the majority of infections continue to be occurring in male-to-male sexual contact. And over the last, as I mentioned, 10 to 15 years, there's still about 40,000 to 45,000 infections per year. If we look at the distribution, however, of the classifications depending on male or female, we see that in males, the vast majority are in males that have had male sexual contact, where in females, most of the acquisition is associated with heterosexual contact.

Dr. Caudle:

Can you discuss what the rationale is for HIV screening, and how frequently should providers be testing?

Dr. Workowski:

Sure. The rationale for HIV screening is that many persons are unaware they are infected. The identification, rapid identification, will lead to initiation of antivirals. Treatment guidelines now recommend that all patients should be placed on antiviral medication, regardless of their CD4 count. And we know that treatment improves health and reduces transmission. Also, the US Public Service Task Force has recommendations for adolescents and adults ages 15 to 65 and all pregnant women. The CDC also has recommendations for HIV testing that were issued back in 2006, and they call for voluntary screening for persons age 13 to 64 with more frequent screening for individuals deemed to be at high risk. And I refer you back to what we discussed further in terms of risk assessment. Consent or counseling are not required, and there is universal opt-out screening.

How often should one be tested? Really, the testing should be annual or more frequent testing depending on high risk. And who would be considered for a high risk? Men who have sex with men, and the testing should be every 3 to 6 months, persons using injection drugs, exchange of sex for money, unknown status of their partners, pregnant women, or those seeking treatment for a sexually transmitted infection.

One-time testing would be what would be considered low-risk patients, and I would refer you to the guidance from both CDC and the US Public Service Task Force for more details regarding testing and frequency of screening.

So, what about testing? There's been a change in terms of the diagnostic testing algorithm. In the past we would screen individuals first with an EIA with a confirmatory Western blot, but several years ago there was a change of test sequence in that we are recommending now a fourth-generation HIV-antigen antibody to detect P24 antigen and HIV antibody, and if positive, a confirmatory HIV-1, HIV-2 antibody differentiation immunoassay is recommended. In this instance, we are able to pick up rare infections with HIV-2, and most of those infections are from individuals that have immigrated to this country from West Africa.

I think what's really important, as well to think about, is after you have a positive test result and inform the patient, the importance of

immediate linkage to care is very important in terms of getting that individual engaged in care, so as primary care physicians, it's extremely important not only that you test and diagnose but that there's an expeditious linkage to care. And this has been well documented by the Institute of Medicine in terms of the importance of monitoring individuals and linking them to care.

And a term that has been used over the past several years to talk about this cascade of diagnosis to viral suppression is called the HIV Care Continuum, and this was described several years ago looking at proportions of people that were diagnosed with HIV and then linked to care and then retained in care, started on antiviral medicine, and then were adherent to medications and then undetectable. So, there's a very important article from Gardner from *Clinical Infectious Diseases* in 2011 that actually looked at this cascade of care and looked at the two major problems in terms of this HIV Care Continuum, were the drop-off from somebody getting diagnosed with HIV to getting them linked to care, and then once they're linked in care, to make sure that they were retained in care.

So, the important thing for primary physicians is to make sure that once they make the diagnosis, that they have their referral mechanisms in place if they need or whether they take care of individuals with HIV, but the importance of linking to care, and once in care to make sure that they're retained in care.

Dr. Caudle:

If you're just tuning in, you're listening to CME on ReachMD. I am your host, Dr. Jennifer Caudle, and today I'm speaking with Dr. Kimberly Workowski, Professor of Medicine in the Division of Infectious Diseases at Emory University.

Dr. Workowski, we just reviewed HIV screening. Now let's take a look at viral hepatitis. Can you please talk about the burden of viral hepatitis in the United States?

Dr. Workowski:

The global prevalence of hepatitis B is very regional. It tends to be much more common in Southeast Asia and the African continent, which is very different than the epidemic that we are seeing in other areas, including the United States, so highlighting the difference in terms of the global prevalence in terms of where the disease is endemic, looking at other countries, so Southeast Asia and Africa. And then what about here in the United States? In the United States, there's been a steady decline of hepatitis B prevalence. A lot of that has been associated with reduction due to hepatitis B immunization, so most of the hepatitis B that we're seeing here in the United States is actually due to foreign-born individuals.

There was a nice article several years ago in the *Annals of Internal Medicine* by **Lai*** looking at differences in race and ethnicity by hepatitis B and C, and most of the hepatitis B-related deaths in the United States is really related, seen in folks from the Asian and Pacific Islander ethnicity, and again related to what we're seeing here regarding how much hepatitis B is prevalent in different parts of the world, and particularly Southeast Asia.

Moving next to hepatitis C, global prevalence from the WHO states about 130 to 150 million infections. If we look at the US, the best data we have in the US is from the National Health and Nutrition Survey showing that for the upper limit estimate, it's about 7.1 million cases; although, there are other folks that were not really represented well in this National Health and Nutrition Survey.

There are currently two ongoing issues of hepatitis C prevalence. One is the current increase we're seeing with incident infections associated with injection drug use, with the resurgence of heroin and other narcotics, and also the importance that was documented several years ago about the high seroprevalence associated with birth cohort between 1945 and 1965. There's a 5-fold greater prevalence in individuals born between this cohort, and 80% of all HIV-infected adults are within this age cohort. It also affects about 73% of all hepatitis C-related deaths in the United States are in this age cohort. So, interestingly, this is really important because hepatitis C mortality in the US is increasing, and in fact, some data several years ago now showing that the death rate from hepatitis C surpasses the death rate from HIV.

Dr. Caudle:

And why is it so important for primary care providers to be screening for viral hepatitis?

Dr. Workowski:

So, the importance in terms of screening really comes as a basis from the US Viral Hepatitis Action Plan, which has recently been updated and talks about ways that we can increase detection of viral hepatitis. One of the things to do, besides educating providers and communities, are to improve testing, care and treatment, and that includes screening by the primary care provider.

Dr. Caudle:

Can you discuss the current recommendations for screening for hepatitis B and C?

Dr. Workowski:

Sure. There are national policies for hepatitis B and hepatitis C testing. In terms of hepatitis B testing, the testing involves testing foreign-born persons from Asia, Africa and countries with a greater than 2% prevalence of infection, men who have sex with men, injection drug users, and I'll go into a little bit more depth about the hepatitis B testing as well as the hepatitis C testing. So, prior to June of 2013 for hepatitis C, there was risk-based testing for hepatitis C, and because there was an increase, that studies have shown that an increased amount of infections were found in individuals that were born between 1945 and 1965, a recommended one-time test using birth cohort screening is now recommended. Persons who inject drugs, other individuals that have received blood products or blood or organ transplantations also would be potential for screening for hepatitis C.

So, let's move for the currently available testing for hepatitis B. Hepatitis B testing can be a little bit more complicated. There is screening that we do using hepatitis B surface antigen, which indicates presence of virus. Hepatitis Be antigen indicates high viral replication and infectivity. Hepatitis B surface antibody is a measure of immunity. Hepatitis B core antibody is a measure of previous or ongoing infection. And then IgM antibody to core antigen is evidence of a recent infection, acute infection, or a flare in a person with chronic infection. And the use of these tests should really be targeted to what your population is, and this was nicely highlighted by the CDC a number of years ago in terms of helping providers determine whether they should be screening with hepatitis B surface antigen only or in hepatitis B surface antigen, antihepatitis B core and antihepatitis B surface antibody. And that really depends on if you're thinking about acute exposure, somebody with an elevated ALT or AST, US-born not vaccinated but whose parents were born in areas of high endemicity, or persons that were born in regions of high and intermediate hepatitis B endemicity.

The use of the three tests for screening should really be used in individuals if they're susceptible persons to provide vaccination because there is concern for ongoing risk, and that is men who have sex with men, injection drug users, anybody on chronic hemodialysis, pregnant women, anybody that's a household or needle sharing or sexual contact of an individual that's got chronic active hepatitis B, and then individuals with HIV infection.

Dr. Caudle:

Okay, Dr. Workowski, before we end, what educational tools or resources do you recommend for providers to learn more about screening for STDs?

Dr. Workowski:

So, one of the resources that are available include the importance of educating not only providers and communities through outreach but also for resources that providers can use regarding websites' Warm Lines to National Networks of Clinical Prevention Training Centers. There are the resources that I talked about regarding management recommendations for the evaluation of sexually transmitted infections. There's also resources including how to take a risk assessment, how to perform a sexual health evaluation, and then, again, what to screen, how to screen, and there is wonderful resources on the CDC website.

Dr. Caudle:

Thank you very much. I'd like to thank our guest, Dr. Workowski, for helping us better understand the screening for infectious diseases in primary care. I'm your host, Dr. Jennifer Caudle, and thank you for listening.

Narrator:

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