Hepatitis is the inflammation of the liver caused by infection with one of six known types of hepatitis viruses. Hepatitis A (HAV), hepatitis B (HBV), and hepatitis C (HCV) are the most common types of hepatitis; HCV is the deadliest and most difficult to treat. Hepatitis D, hepatitis E, and hepatitis G are relatively rare forms of the virus.

An estimated 4 million people in the United States are infected with the hepatitis C virus (HCV), and as many as 40 percent of people infected with HIV may also be infected with HCV. Between 8,000 and 10,000 people in the United States die from HCV infections each year, and researchers expect this number to triple over the next two decades if an effective intervention is not developed. There is no vaccine to protect against or treat HCV infection, and although antiviral treatments are available, many people do not respond to them and the side effects are often significant enough to discontinue treatment.

Between 40 percent and 60 percent of all cases of liver disease in the United States are caused by HCV infection. Researchers estimate that between 80 percent and 90 percent of people infected with HCV experience chronic, or long-lasting, infection.

HCV is more likely than the other types of hepatitis to progress to chronic infection. Most people who contract HCV have no signs or symptoms for many years and are, therefore, unlikely to know that they are infected. In such cases, HCV “silently” destroys the liver, and the extent of the destruction becomes apparent only when liver damage is severe and irreversible. Although some people with chronic HCV infection live a normal life span without significant liver damage, it is more common for irreversible scarring and distortion of the liver to develop, which can lead to liver failure or liver cancer.

An estimated 30,000 new acute HCV infections occur every year in the United States, of which only 25 percent to 30 percent are thought to be diagnosed. The highest rates of HCV infection are found in people between the ages of 30 and 49. New cases of HCV infection are more
common among African Americans and Latinos than among Whites. In the California prison system, research indicates that nearly 40 percent of incoming male inmates and 53 percent of incoming female inmates are HCV-infected.

The Centers for Disease Control and Prevention (CDC) recommends HCV screening for people with the following risks: anyone with a history of injection drug use, people with hemophilia, recipients of blood transfusions or organ transplants prior to 1992, health care workers exposed to HCV-infected blood, and children born to HCV-infected mothers.

The most common HCV test is the enzyme-linked immunoassay (ELISA or EIA), which examines blood for the presence of antibodies to HCV. Antibodies usually develop within 10 weeks after infection. Unlike HIV antibody testing, which can be performed in many different settings, HCV testing is usually performed by a private physician or in a hospital setting after a medical examination indicates signs of infection or at the request of the client. In 1999, the Food and Drug Administration (FDA) granted approval to Home Access Health Corporation to market an over-the-counter HCV testing service. Home Access also markets the only FDA-approved home HIV testing service.

Transmission
HCV is transmitted primarily by exposure to blood and to body fluids contaminated with blood. HCV can live longer outside the body than HIV and is more abundant in an infected person’s blood. As a result, HCV is much more infectious than HIV, and it is the most common chronic blood-borne infection in the United States.

Although blood transfusions accounted for most cases of HCV infection prior to the introduction of routine screening in 1992, more than half of all new HCV infections in the United States each year occur among injection drug users. Between 65 percent and 90 percent of injection drug users are estimated to be infected with HCV.

Research indicates HCV infection often occurs quickly for new injection drug users: 50 percent to 80 percent test positive for HCV within six to 12 months after initiating injection drug use.

Research suggests that 80 percent of people infected with HIV who have a history of injection drug use are also infected with HCV.

Related Issue: Hepatitis B

Between 140,000 and 320,000 people in the United States become infected with the hepatitis B virus (HBV) each year. HBV is a liver infection that can be transmitted in many of the same ways as HIV, including unprotected sex, needle sharing, and breast feeding from an infected mother. In general, any exchange of blood or sexual secretions can potentially transmit HBV. Like hepatitis C, but unlike HIV, there have been cases of HBV transmission as a result of sharing toothbrushes or razors with infected people. Infection can also result from using contaminated needles for tattooing and body piercing. Many people infected with HIV are also infected with HBV because these viruses are transmitted through similar routes.

Most people who contract HBV experience intense, acute illness shortly after infection, but their immune systems usually expel the virus from the body within a few weeks, and they recover completely without future complications. People who recover from HBV infections cannot become infected again and are not contagious to others, but their blood will always show that they have been infected. Some people infected with HBV never have recognizable signs or symptoms and only learn of their infection through a blood test during a medical examination. About 3 percent to 5 percent of people infected with HBV develop chronic disease that can lead to cirrhosis or liver cancer. People chronically infected with HBV—known as “carriers” of HBV—usually do not show signs or symptoms of infection but are infectious to other people.

A vaccine is available for HBV, and the Centers for Disease Control and Prevention (CDC) recommends vaccination for injection drug users and people who engage in unprotected sex with more than one partner. The HBV vaccine is given as a series of three injections and, once vaccinated, the recipient becomes immune to HBV infection. Since 1991, the HBV vaccine has become part of the routine schedule of immunizations in the United States for children up to the age of 18.
Related Issue: Hepatitis A

Each year, nearly 200,000 people in the United States become infected with hepatitis A, a liver disease caused by the hepatitis A virus (HAV). Transmission of HAV occurs as a result of oral contact with contaminated feces, as can happen when people engage in oral-anal sexual contact (also known as “rimming”). HAV outbreaks can occur if an area’s water supply is contaminated by sewage. Eating or drinking food prepared by an infected person who fails to wash his or her hands after having fecal contact is a common route of HAV transmission. Because HAV is highly contagious, transmission can also occur as a result of sharing eating utensils with an infected person. Although sexual transmission has been known to occur, HAV is not considered a sexually transmitted disease (STD) because non-sexual modes of transmission are more common.

Studies have found increasing evidence that gay and bisexual men are at risk for sexual transmission of HAV. Outbreaks of HAV among gay and bisexual men have occurred in various cities around the world, and researchers believe that these outbreaks are largely the result of behaviors involving contact between the mouth and anus as well as contact between the fingers and anus.

HAV can cause flu-like illness with symptoms of jaundice—yellowing of the skin—as well as vomiting, fatigue, loss of appetite, stomach pain, or diarrhea. Most adults who become infected with HAV pass the virus through their system within a few weeks without developing long-term liver disease.

An HAV vaccine consisting of a series of two inoculations is available and routinely given to infants and children in the United States. Because co-infection with hepatitis C virus (HCV) and HAV can lead to sudden and severe liver disease, the Centers for Disease Control and Prevention (CDC) recommends that people infected with HCV be inoculated against HAV. HIV co-infection with HAV does not affect transmission, symptoms, or treatment of HAV, but any infection in an HIV-infected person impacts the immune system.

Between 65 percent and 90 percent of injection drug users are estimated to be infected with HCV.
tact with small amounts of blood. There is also a risk of mother-to-child transmission of HCV during pregnancy or at birth. Although breast feeding itself does not appear to transmit HCV, the presence of abrasions or bleeding on the mother’s nipples can provide a mode of transmission. Mother-to-child transmission of HCV occurs among 5 percent of infants born to infected mothers in the United States. For infants born to mothers co-infected with HCV and HIV, however, research suggests that the rate of HCV transmission is 14 percent.

Co-Infection with HIV and other STDs

Co-infection with HCV and HIV appears to increase the chance of transmitting both viruses. In one study, co-infected men were five times more likely to sexually transmit both viruses to women than men infected with only one of the viruses. Research also suggests that the risk of sexually transmitting HIV or HCV is greater among gay men who are co-infected than among gay men who are infected with only one of these viruses.

The presence of sexually transmitted diseases (STDs) other than HIV may also facilitate HCV transmission. The bleeding and open sores caused by some STDs give HCV-infected blood a pathway for transmission during sex. A Baltimore study of STD clinics found that 10 percent of clients who did not report injection drug use were infected with HCV. In comparison, 2 percent of the general population is estimated to be infected with HCV.

In people infected with HIV, HCV tends to reproduce more quickly because of weakened immune systems and, therefore, leads to death more rapidly than in people who are not infected with HIV. Research also suggests that co-infection with HCV and HIV may cause a quicker progression to an AIDS diagnosis. In addition, people with developed liver disease often cannot take protease inhibitors due to toxic reactions, making the management of HIV more difficult.

### Common Types of Hepatitis

<table>
<thead>
<tr>
<th>Type</th>
<th>Transmission</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A</td>
<td>Contact with feces of an infected person. Usually the result of contact with contaminated food or water, but transmission often occurs during sex that involves anal contact.</td>
<td>Flu-like symptoms, fatigue, nausea, loss of appetite, abdominal pain, diarrhea, dark urine, and jaundice (yellowing of the skin and eyes). Some infected people have no symptoms.</td>
<td>Rest and increased intake of fluids. Infections are preventable if immune globulin (a preparation of antibodies) is given within two weeks of exposure. Vaccines are available.</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Exchange of blood or bodily fluids, such as can occur through sharing needles or having sex with an infected person. Mother-to-child transmission can also occur.</td>
<td>Jaundice, fatigue, loss of appetite, nausea, vomiting, and abdominal and joint pain. Can lead to cirrhosis of the liver and liver cancer. Most people do not develop chronic infection. Some people never develop symptoms.</td>
<td>For chronic infection, the antiviral drug interferon reduces the chance of a return of the disease and is effective in 30 percent to 40 percent of people. A vaccine has been available since the early 1980s.</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>Exchange of blood is the most common mode of transmission, although cases of sexual transmission have been known to occur. Commonly transmitted by sharing needles. Blood transfusions before 1992 account for many cases. Mother-to-child transmission can also occur.</td>
<td>Acute symptoms include fatigue, abdominal pain, loss of appetite, jaundice, nausea, and vomiting. However, most infected people have no symptoms for many years. Can cause chronic liver damage, cirrhosis of the liver, and liver cancer.</td>
<td>Interferon and sometimes combination therapy of interferon and ribavirin. No vaccine is available.</td>
</tr>
</tbody>
</table>

It is important for HIV test counselors to know about various forms of hepatitis because hepatitis and HIV are related in many ways. Co-infection with various types of hepatitis and HIV can complicate each infection, and clients often have questions, confusion, or incorrect information about hepatitis.

Hepatitis A (HAV), hepatitis B (HBV), hepatitis C (HCV), and HIV are all viruses transmitted through similar routes, and screening for each can involve the detection of antibodies. It is important, however, for counselors to understand the differences among these infections. For instance, HAV and HBV often involve acute illness followed by no recurrence of illness, while the effects of HIV and HCV are more likely to occur over a long period of time and to be life-threatening. In addition, HCV is far less likely to be sexually transmitted than HIV and HBV. HCV or HBV live longer outside of the body compared to HIV and may, therefore, be transmitted through sharing razors, toothbrushes, or other personal items.

Although transmission of HAV and HCV commonly occurs through non-sexual contact, counselors may approach a discussion of various types of hepatitis similarly to the way they discuss sexually transmitted diseases (STDs).

Counselors should outline for interested clients the routes of transmission for each type of hepatitis: HAV is primarily transmitted through oral contact with feces, such as from drinking contaminated water or engaging in anal-oral contact, also known as “rimming”; HBV is transmitted through sex, injection drug use, and sharing personal items that may cause the exchange of blood to occur; and HCV is transmitted primarily through injection drug use or other behavior involving contact with blood.

Because HCV and HBV are transmitted through sharing drug paraphernalia with someone who is infected, counselors can integrate a discussion of HCV and HBV into any discussion of HIV infection with clients who have a history of injection drug use. A counselor might, for instance, say, “HIV is contracted through sharing needles and cottons and cookers, and you can also contract HCV and HBV infection this way.”

Given the recent emergence and life-threatening nature of HCV, HIV test counselors are more likely to be asked about HCV than about other types of hepatitis. The following are some key points for discussions related to HCV:

- HCV is more highly concentrated in the blood than is HIV, and is, therefore, more easily transmitted through blood contact. HCV is more likely than HIV to be transmitted during unsafe tattooing or piercing, and it can be transmitted through sharing straws and other devices used for snorting heroin, cocaine, and other drugs.
- If a person is bleeding or is in some way exposed to blood during sex, he or she may be at risk for HCV infection.
- The presence of an STD, including HIV, can facilitate transmission of HCV.
- Co-infection with HCV and HIV can accelerate the progression of each viral disease. The combined presence of HAV and HCV can be especially life-threatening.

After reviewing transmission information, counselors can work with clients on prevention strategies, many of which are similar to strategies to prevent HIV infection. The main exception to this, however, is that there is no known way to clean needles to effectively prevent
HCV transmission. Counselors should also emphasize that vaccines are available for HAV and HBV, but not for HCV.

Explain to clients that screening is available for various forms of hepatitis. Make clear, however, that HIV testing does not provide any indication of whether or not a person is infected with any type of hepatitis. Refer concerned clients to primary health care providers for hepatitis testing. Encourage clients who test positive for HIV antibodies to test for hepatitis. Screening for HCV and HBV is a standard procedure for people with HIV seeking medical care.

**Treatment**

When clients ask about progression of and treatment for hepatitis infection, help them understand that each type of hepatitis is different. Explain that HAV involves an acute illness, and that after this illness passes, the infected person likely will not be affected by the virus again. HBV also involves an acute illness, which for some people never recurs, but for others can cause serious liver damage or be life-threatening. Explain that HCV develops into a chronic condition for most people, and although antiviral treatments are available for HCV, their long-term effectiveness is unproven.

If a client discloses that he or she is infected with HCV, learn if he or she routinely receives medical care. Beyond this, discuss strategies to prevent transmission of the virus. If a client with HCV wants to talk in detail about his or her infection, counselors can respond by listening and asking open-ended questions such as, “How are you dealing with your infection?” or “What did your health care provider tell you about HCV?” The answers to these questions can help counselors determine what services, such as counseling, education, or health care, clients might need and

**References**


then provide appropriate referrals.

Clients with hepatitis may be unsure about disclosing their infections to sex partners. It is important to recognize that each client needs to make his or her own decision about disclosure. Counselors can help clients understand the risks they take in disclosing at various stages of knowing someone. For instance, a client might disclose too “early,” before he or she has a chance to get to know someone, or too “late,” after engaging in potentially risky behavior. If clients explain that they see no reason for disclosing HCV infection to sex partners because the virus is not commonly transmitted during sex, point out that many partners would still like to be informed and make their own decisions about how much risk they are willing to take.

**Uncertainties and Distinctions**

Be aware that for some clients, receiving information about various forms of hepatitis transmission after also receiving information about HIV transmission may be confusing. Help clients separate the different issues. Explain that these are different viruses and that less is known about HCV than about HIV. Assess clients’ understanding of the distinctions between the various types of infections.

Recognize that clients may be confused about the meaning of their antibody status. For instance, a client who is infected with HIV will test positive for HIV antibodies. However, a client who has received a vaccine for HBV may test antibody positive for HBV without actually being infected. The antibody response in such a case is caused by the vaccine.

Because there was a risk for HCV infection through blood transfusions before HCV blood supply screening began in 1992, clients may question if the current blood supply is safe from other viruses that have not yet been discovered. This concern may be heightened given that HIV was also transmitted through blood transfusions prior to blood supply screening for HIV began in 1985. While not being able to provide absolute answers, counselors can acknowledge clients’ feelings and concerns, reiterate that the blood supply is safe from HIV and HCV, and state that researchers seek to make the blood supply as safe as possible. For more information, counselors can refer clients to other resources, such as the American Red Cross or local blood donation centers.
Test Yourself

Review Questions

1. True or False: Since the discovery of HCV, researchers have fully understood all aspects of the virus related to transmission, progression, and treatment.

2. Most new cases of HCV infection occur as a result of which of the following routes of transmission? a) sexual contact; b) blood transfusions; c) injection drug use; d) childbirth.

3. True or False: A vaccine exists for preventing HCV infection.

4. True or False: HCV poses no threat to people infected with HIV.

5. HCV could potentially be transmitted by sharing which of the following? a) razors; b) tattoo needles; c) straws and other snorting devices; d) all of the above.

6. According to available research, what percentage of people infected with HCV experience chronic infection? a) less than 1 percent; b) 10 percent; c) between 20 and 30 percent; d) between 80 and 90 percent.

7. True or False: It is possible to be infected with HCV and not show any signs or symptoms of infection for many years.

8. True or False: The presence of STDs poses no threat for transmitting HCV because HCV is not sexually transmitted.

Discussion Questions

1. How can HIV test counselors learn where clients can go to receive free or low-cost screening for HBV or HCV and vaccinations for HAV or HBV?

2. How can counselors respond to clients’ concerns about various types of hepatitis while ensuring that the session remains focused on HIV test counseling?

3. How can counselors respond to clients who are concerned about the absence of a cure or proven treatment for HCV?

4. How can counselors help clients gain clarity about various types of hepatitis, particularly in relation to HIV, given the numerous similarities and differences of each type?

5. How can counselors stay abreast of current information about various types of hepatitis?

6. How can counselors respond to clients who ask detailed scientific questions about vaccinations for HAV and HBV, and about treatments for each type of hepatitis?

Answers

1. False. Although there have been significant advances in the field of HCV research, many questions remain unanswered.

2. c.

3. False. While vaccines exist to prevent infection with HAV and HBV, there is no vaccine to prevent HCV infection.

4. False. HCV can accelerate the progression of HIV disease and make treatment of both infections more complicated.

5. d.

6. d.

7. True.

8. False. The presence of some STDs can cause bleeding or open sores that can provide pathways for the exchange of HCV-infected blood during sexual contact.
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