Section 1: What is Hepatitis C?

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Learning objective of the session:
understanding what hepatitis C virus is
Outline of the presentation

1. What is Hepatitis?
2. Different hepatitis viruses (A, B, C, D, E)
3. Hepatitis C Virus (HCV)
4. Transmission
5. Epidemiology
6. Genotypes
7. Key messages
8. Exercise
What is Hepatitis?

Hepatitis is a general term for swelling (inflammation) of the liver.

Do you know what is the liver and where it is located in the body?
Functions of Liver 1/2

» **Builds** and converts proteins and sugars

» **Stores** vitamins, sugars, fats and other nutrients and **releases** into the body when needed.

» **Removes** waste products and other harmful substances from your blood
Functions of Liver 2/2

» **Makes** bile (a liquid that your body uses to digest fat).

» **Creates** the hormone that helps to produce platelets (which stop bleeding by clotting blood)
Like other organs in the body, the liver is able to regenerate its own tissue.

When the liver is too much damaged it cannot work properly.

Liver damage can lead to life-threatening complications, such as cirrhosis, liver cancer and liver failure.
Causes of hepatitis:

» Viral Infections (hepatitis A,B,C,D,E)

» Non viral causes: Heavy alcohol use, certain medication (paracetamol) or traditional herbs, Leptospira infection, poisons (Aflatoxin, Amanita phalloides (mushroom))

What do you know about the different hepatitis viruses?
## Different hepatitis viruses 1/2

<table>
<thead>
<tr>
<th></th>
<th>Mode of transmission</th>
<th>Vaccine</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hepatitis A (HAV)</strong></td>
<td>Contaminated food and water</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Hepatitis B (HBC)</strong></td>
<td>Contact with infected blood, sexual intercourse, mother to her newborn.</td>
<td>Yes</td>
<td>Yes (long term)</td>
</tr>
<tr>
<td><strong>Hepatitis C (HCV)</strong></td>
<td>Contact with infected blood</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Hepatitis Delta (HDV)</strong></td>
<td>Must already have hepatitis B. Contact with infected blood, sexual intercourse, mother to her newborn.</td>
<td>Get the hepatitis B vaccine</td>
<td>No</td>
</tr>
<tr>
<td><strong>Hepatitis E (HEV)</strong></td>
<td>Contaminated water</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Different hepatitis viruses 2/2

HBV and HCV are the two most serious hepatitis viruses: most deaths from liver disease are caused by chronic HBV and HCV.

Some people can clear HBV and HCV without treatment, but HBV and HCV can also become chronic (lifelong) infections and eventually develop serious liver damage, liver cancer and liver failure without treatment.
Hepatitis C virus (HCV)
HCV is a **RNA virus** of family Flavivirida

Transmission

You can get HCV when blood from a person with HCV infected person enters your body.
» Hepatitis C is a **very small virus** (much smaller than HIV), so there is more of it in a drop of blood. Blood can be present even if you do not see it with your eyes.

» HCV is a very **resistant** virus. It remains detectable in the presence of serum for up to 5 days on inanimate surfaces, and up to 5 months in a liquid environment at lower temperatures. **Bleach doesn’t kill it.**

» HCV is 10 times more infecting than HIV.
Most common transmission routes

- blood transfusion
- invasive medical procedures with infected equipment
- **sharing drug use equipment**
- Sharing tattoo and piercing equipment
- sharing personal care items that may have blood on them, such as razors and toothbrushes.
HCV transmission through sexual intercourse is rare but can occur if blood is involved.

Hepatitis C is rarely passed from a pregnant woman to her baby. About 6 of every 100 infants born to mothers with Hepatitis C become infected with the virus.

However, the risk becomes greater if the mother has both HIV infection and Hepatitis C.

You cannot get HCV from: casual contact (kissing, shaking hands, sharing glasses or eating utensils), mosquitos.
Epidemiology

» Globally, an estimated **150 million people are chronically infected with HCV** and the virus causes nearly **700 000 deaths each year**.

» **Every year between three and four million people are infected** by hepatitis C.

» Hepatitis C is seen everywhere in the world. Countries with the highest prevalence (>10%) are Egypt, Mongolia and Cameroon.
Anti-HCV prevalence worldwide

Note: anti-HCV prevalence for countries with regional estimates for countries without reported data.

HCV most affected populations

» PWID are the group the most affected by Hepatitis C.

» Among the estimated 16 million PWID, 67% (10 million people) have been exposed to HCV

» 5.5 million worldwide people are co-infected with HIV and hepatitis C
HCV Prevalence in Tanzania

» The overall estimated adult prevalence of HCV is 2.7%

» The estimated adult prevalence among PWID in Tanzania is 27.7%

» Among HIV infected adults the estimated HCV prevalence is 18% in the general population.

» For HIV positive PWID, the estimated HCV prevalence is 70%.
Genotypes

The HCV has a highly variable genome, which has been classified into six distinct genotypic groups.
FIGURE 2.1 Global distribution of genotypes of HCV (18)
In Tanzania the genotypic distribution is as follows:

» Gen 1 : 13.1%
» Gen 4: 45%
» Gen 2,3,5 & 6 there is no data available.
1) Hepatitis means liver disease, it can be viral or non-viral
2) 5 different virus can cause hepatitis (A, B, C, D, E)
3) Hepatitis B and C are the most serious
4) There is a vaccine for HBV but not for HCV
5) There are treatment for HBV and HCV
6) Hepatitis C is transmitted through blood contact, it is very resistant and infectious
Exercise (30 min):

Divide participants into groups of 3 to 5 and ask them to fill the table below (you can draw the table on flipcharts)

<table>
<thead>
<tr>
<th></th>
<th>Modes of transmission</th>
<th>Is there a vaccine?</th>
<th>Is there a treatment?</th>
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