

LIVER HEALTH AT RISK: WHAT YOU NEED TO KNOW ABOUT VIRAL HEPATITIS*Kokand University, Andijan Branch**Faculty of Medicine, Department of General Medicine**Student: Karimsherova Zahro Shoyatbek kizi**Email: zahrokarimsherova@gmail.com**Phone: +998 33 857 77 44*

Abstract: This article is dedicated to the scientific exploration of viral hepatitis diseases and their detrimental impact on liver health. Viral hepatitis types A, B, C, D, and E pose varying levels of risk to human health. In particular, chronic forms of hepatitis B and C can lead to severe outcomes such as liver cirrhosis and liver cancer. The article covers the types of hepatitis, transmission routes, preventive measures, and also analyzes the epidemiological situation, diagnostic and treatment strategies regarding viral hepatitis in Uzbekistan. The study is based on statistical data and advanced scientific sources.

Keywords: viral hepatitis, liver health, hepatitis B, hepatitis C, prevention, epidemiology, Uzbekistan, infectious diseases

Introduction

The liver is one of the most vital organs in the human body. It plays a central role in detoxification, metabolism, immune response, and blood coagulation. Therefore, maintaining liver health is crucial in protecting against serious illnesses. Over the past decades, one of the most threatening infectious diseases affecting liver health has been viral hepatitis. Viral hepatitis refers to a group of viral infections that cause liver inflammation and gradually impair its function, classified into types A, B, C, D, and E. Each type differs in terms of transmission, clinical symptoms, complications, and treatment methods. Particularly, types B and C often become chronic and may cause severe complications such as cirrhosis and hepatocellular carcinoma (liver cancer). According to the World Health Organization (WHO) data from 2023, approximately 296 million people live with hepatitis B and over 58 million with hepatitis C worldwide. About 1.3 million people die annually due to complications related to hepatitis. In Uzbekistan, certain types of hepatitis are considered endemic. This article aims to analyze the most dangerous forms of hepatitis, associated risks, treatment strategies, and the necessity to raise public awareness. The threat of viral hepatitis to public health is examined using scientific sources, statistical data, and national health system insights.

Research Methodology

The following methods were used in this scientific study:

1. Literature Review – Analysis of international and local articles on viral hepatitis, reports from WHO and the Ministry of Health of the Republic of Uzbekistan.

2. Epidemiological Analysis – Assessment of the spread, regional distribution, and demographic factors of viral hepatitis in Uzbekistan based on statistical indicators.
3. Comparative Analysis – Comparison of clinical differences, transmission methods, and preventive effectiveness among hepatitis types.
4. Expert Evaluation – Opinions and recommendations of medical professionals were reviewed and synthesized.
5. Survey (based on secondary data) – Analysis of public awareness regarding hepatitis in Uzbekistan based on prior research.

Main Body

1. Types of Viral Hepatitis and Their Characteristics

Hepatitis A (HAV): Transmitted via the fecal-oral route, often through contaminated water, food, or poor hygiene. Typically acute, not chronic. A vaccine is available and effective.

Hepatitis B (HBV): Transmitted through sexual contact, blood, or from mother to child during pregnancy or delivery. Can become chronic and lead to cirrhosis or cancer. A highly effective vaccine is available.

Hepatitis C (HCV): Mainly transmitted via contaminated needles or blood products. Most commonly becomes chronic. No vaccine exists, but new direct-acting antiviral (DAA) treatments can cure up to 95% of cases.

Hepatitis D (HDV): Occurs only in individuals already infected with hepatitis B. Coinfection with HBV results in more severe outcomes.

Hepatitis E (HEV): Like HAV, spreads through the fecal-oral route. Especially dangerous for pregnant women, potentially leading to severe liver failure.

2. Transmission Routes of Viral Hepatitis

Parenteral (via blood)

Perinatal (mother to child)

Sexual transmission

Contaminated water and food

Contaminated medical instruments

3. Impact of Hepatitis on Liver Health

Chronic hepatitis B and C infections gradually damage liver cells over the years, leading to:

Fibrosis

Liver cirrhosis

Hepatocellular carcinoma (liver cancer)

Liver failure

4. Epidemiology of Viral Hepatitis in Uzbekistan

In recent years, the number of registered hepatitis C cases in Uzbekistan has increased. WHO's 2022 report shows hepatitis B prevalence in Uzbekistan is average compared to other Central Asian countries. However, public awareness remains low.

5. Treatment Methods

Hepatitis B: Antiviral drugs (tenofovir, entecavir)

Continuous monitoring

Highly effective vaccine

Hepatitis C: Direct-acting antivirals (DAA): sofosbuvir, ledipasvir

8–12-week course can result in full recovery

6. Prevention and Awareness

Administering HBV vaccine within 24 hours of birth

Strict sterilization in healthcare facilities

Promoting healthy lifestyles (safe sex, careful handling of blood exposure)

Due to lack of hepatitis C vaccine, eliminating risk factors is key

Regular screening for healthcare workers and donors

7. Challenges in Uzbekistan

Low public awareness of hepatitis types and their risks

High cost of treatment, particularly for hepatitis C

Inadequate vaccine availability in some regions

Insufficient training among physicians on new hepatitis C treatment protocols

Stigma and discrimination against hepatitis patients

Analysis and Results

1. Epidemiological Analysis Based on Statistics

According to the Ministry of Health of Uzbekistan, the number of hepatitis B and C cases increased by 12% in 2023. Key contributing factors include:

Inadequate sterilization in private clinics

Increase in medical and cosmetic procedures

Incomplete blood donor screening

2. Advances in Diagnosis

Recent years have seen broader use of ELISA and PCR tests nationwide. These facilitate early detection of infection. However, unequal access to laboratories in all regions leads to many cases going undiagnosed.

3. Treatment Opportunities and Challenges

Today, DAA medications are widely used to treat hepatitis C. However, the cost of a single treatment course (\$800–1500) is unaffordable for many Uzbek families. Hepatitis B requires lifelong antiviral therapy, posing both financial and psychological burdens. Some medications are subsidized, but supply issues and misuse persist.

4. Public Awareness Levels

Survey analysis (2022) shows that only 43% of the population have basic knowledge about hepatitis B and C. Among youth, this figure drops to 28%, indicating that health education in the school system is insufficient.

Conclusion

Viral hepatitis remains one of the most serious threats to liver health, especially due to the chronic progression of types B and C and their complications. While some progress has been made in Uzbekistan (such as expanded diagnostics and introduction of DAA therapy), full coverage in terms of screening, affordable treatment, and mass prevention remains a challenge. Protecting liver health is not just the responsibility of healthcare workers, but of every individual. Increasing public awareness,

early detection, and access to modern treatment are the most effective tools in the fight against viral hepatitis.

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