



## VIRAL HEPATITIS DISEASE AND ITS SPREAD AMONG THE POPULATION. THE EXAMPLE OF RISHTAN DISTRICT

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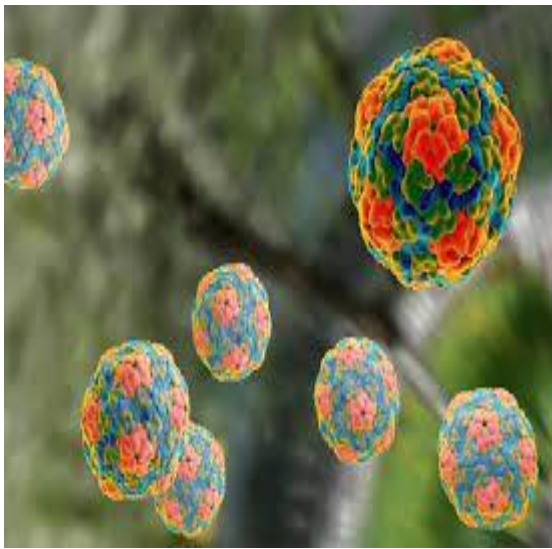
*Basic concepts. Viral hepatitis, hepatovirus, socio-economic, spreading rate, fecal-oral, acute disorder, causative agent, viral hepatitis A, asymptomatic.*

### ABSTRACT

*In fact, viral hepatitis is one of the serious health problems of people. Because 500 million people in the world are infected with hepatovirus, and 80% of them do not have the opportunity to be examined and treated. Viral hepatitis A takes an important place among them. The fact that this disease is widespread among children, who are our future heirs, shows that it is necessary to deeply study not only the methods of treatment of this disease, but also the causes of its origin. Viral hepatitis A disease is becoming an important socio-economic problem today. A lot of research is being conducted all over the world, including in Uzbekistan, to study viral hepatitis A. However, despite research, spreading rate of disease among children is increasing significantly. Hepatitis A is an acute disorder that spread by fecal-oral agents and is often followed by a relapse for a few weeks. It is the causative agent of infectious hepatitis. Although children are more likely to contract hepatitis A than adults, the symptoms are usually much milder than those of adults. 90% of the childhood infections are asymptomatic.*

**Introduction.** Hepatitis A is an inflammation of the liver that can cause mild to severe illness. The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person. Almost everyone recovers fully from hepatitis A with a lifelong immunity. However, a very small proportion of people infected with hepatitis A could die from fulminant hepatitis. Children who go to day-care centers, troops living under crowded conditions, people living in heavily populated and unsanitary conditions, people that practice oral and anal sex and tourists visiting an area where hepatitis A is common are at highest risk for hepatitis A. The incubation period for

hepatitis A is from 10-50 days and fever and jaundice are the main symptoms. Although there have been a few cases of permanent liver damage, 99% of the cases recover completely and

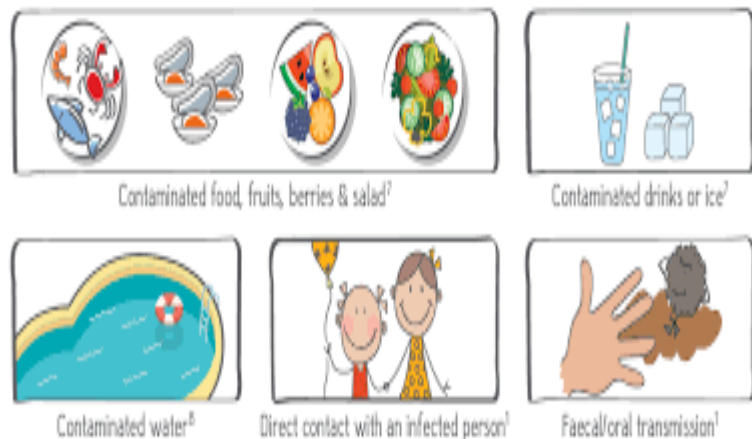


the fatalities are less than 0.1%. Hepatitis A virus normally causes an acute self-limiting infection that does not progress to a chronic phase, and manifestations of disease are generally restricted to the liver. A good vaccine is now available for protection of travellers to endemic regions where the standard of hygiene is poor.

**Etiology.** Hepatovirus related to the Picornaviridae family. HAV is a 27- to 32-nm, nonenveloped, icosahedral positive single-stranded linear RNA virus with an approximately 7.5-kb genome. Upon hepatocyte cell entry, host cell ribosomes bind to the viral uncoated RNA. HAV-RNA is then translated into a major protein

of 2225 amino acids. This large polyprotein is divided into three regions: the P1 region encoding for the structural proteins VP1, VP2, and VP3, and the P2 and P3 regions, which encode for nonstructural proteins involved in viral replication.

**Epidemiology.** Transmission and risk factors — HAV is usually transmitted by the fecal-oral route (either via person-to-person contact or consumption of contaminated food or water). Risk factors for HAV transmission are summarized in the table (table 1). Maternal-fetal transmission has not been described. Fulminant hepatic failure develops in fewer than 1 percent of patients with hepatitis A important risk factors include age >50 years and underlying liver disease (particularly chronic hepatitis C virus infection). In one study including 163 patients with chronic hepatitis B and 432 patients with chronic hepatitis C followed prospectively, hepatitis A superinfection occurred in 27 patients . Among 17 patients with hepatitis C who acquired hepatitis A, fulminant hepatic failure developed in seven cases, of whom six died. Among 10 patients with hepatitis B who acquired hepatitis A, nine had uncomplicated infection; one patient developed marked cholestasis in the setting of pre-existing cirrhosis. Typical manifestations — Acute HAV infection in adults is usually a self-limited illness; fulminant hepatic failure occurs in fewer than 1 percent of cases. The incubation period of hepatitis A infection averages 28 days (range 15 to 50 days) Symptomatic illness due to HAV occurs in more than 70 percent of adults. Symptoms are uncommon in children 6 years of age. Symptoms and signs begin with abrupt onset of nausea, vomiting, anorexia, fever, malaise,



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and abdominal pain (figure 4). Within a few days to a week, dark urine (bilirubinuria) appears; pale stools (lacking bilirubin pigment) may also be observed. These are followed by jaundice and pruritus (40 to 70 percent of cases). The early signs and symptoms usually diminish when jaundice appears, and jaundice typically peaks within two weeks. Physical findings include jaundice, scleral icterus, hepatomegaly (80 percent of cases), and right upper quadrant tenderness to palpation. Less common findings include splenomegaly and extrahepatic manifestations such as skin rash and arthralgias. (See 'Extrahepatic manifestations' below. In pregnant women, acute hepatitis A infection has been associated with increased risk of preterm labor and gestational complications.

**Analyzing methods.** We observed spreading of HAV among population in the example of Rishtan district according to the absolute, extensive and intensive indicators. We learned about social features of patients like gender, age groups and profession. Information on viral hepatitis registered among the population in the Rishtan district during 2022-2023. October report (according to the 1st form)

№	Administrative regions	VHA				VHB				VHC			
		2022		2023		2022		2023		2022		2023	
		Abs	Int	Abs	Int	Abs	Int	Abs	Int	Abs	Int	Abs	Int
	Rishtan district	8	3.8	19	8.8	-	-	-	-	-	-	-	-
	Total	37	17.5	116	54.0	-	-	-	-	-	-	-	-

**Discussion.** According to the statistics total of 116 cases were recorded in 2023, and this indicator is twice as many as in 2022. Absolute indicators increased from 8 in 2022 to 19 in 2023. If we pay attention to socio-professional composition of patients infected with viral hepatitis A in 2023 (per 1000 groups of the population intensively) The largest part of the disease is among children of school age (51), the second largest part is among children of unorganized preschool age (3-6 years old) (42) the next places are children of organized preschool age (3-6 years old) (16) and we can see that the least incidence is among children aged 1-2 years. Diseases among the elderly population are almost non-existent. If we pay attention to the occurrence of the disease throughout the year, we can see that the disease increased in the autumn season. In October alone, 19 cases were detected, and all of them consulted a doctor in the pre-jaundice period. As for the contribution of institutions in the spread of the disease, the main place is occupied by schools with 10 outbreaks of the disease. The next place is occupied by preschool educational institutions with 3 outbreaks of the disease.

**Conclusions.** It is true that school and kindergardens are common place where we can come across agents of this disease. Considering this trend we take initiatives in order to



reduce the spread of the disease among the population, we should pay attention to the following.

1. By increasing the knowledge of the staff of such institutions about this disease. It is worth saying that today many people do not have enough knowledge about VGA. Taking into account, we should take into account the delivery of this knowledge at the primary level. Because the informative tasks of patronage employees are important in preventing diseases. They should organise meetings for giving special information about such kind of diseases with epidemiologists.
2. To strengthen control of personal hygiene rules in groups of the population, in various institutions, to ensure the consistency of inspections.
3. Development of a complex of measures for early detection of diseases.
4. Preventing complications and achieving full recovery.

July 28 is announced as the international hepatitis day by the world health organization. In Uzbekistan, systematic work is being carried out to improve the effectiveness of the prevention of this disease, the effectiveness of treatment and the reliability of diagnostic measures. Especially, in 2019-2025, it is planned to reduce the incidence of viral hepatitis (per 100,000 inhabitants) from 98.1 to 60.0 according to the indicators adopted for the evaluation of the effectiveness of the implementation of the improvement of the healthcare system of the Republic of Uzbekistan .

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