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**Original Research Article**

# Clinico-epidemiological study and laboratory profile of acute viral hepatitis in children of the age group 6 months to 12 years admitted in a tertiary care hospital

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## ABSTRACT

**Background:** Viral hepatitis is a major public health issue throughout the world affecting millions of children despite the availability of vaccines, prophylactic measures and improved sanitation. The objective of the study was to determine the etiological profile of acute viral hepatitis in patients admitted in a tertiary care hospital, West Bengal, India.
**Methods:** This prospective hospital-based study was done in, Midnapore Medical College, Paschim Medinipur, West Bengal, India from February 2020 to July 2021. Children between 6 months to 12 years who presented with fever and prodromal symptoms, with or without jaundice, abdominal pain, high coloured urine, pale coloured stools with suspicion of acute viral hepatitis were included in the study. The data were statistically analysed using Microsoft excel and statistical package for the social sciences (SPSS) software.
**Results:** Majority of the study subjects were from Lower middle class i.e. 59.6%. Only 34.6% regularly boiled water before consuming. Majority 44.2% of the subjects had history of practicing unhealthy eating practices which included not cleaning hands before eating. 66.7% subjects did not boiled water before consumption, 33.3% were involved in unhygienic food habits and 100% were using unhygienic sanitary practices. Prevalence of hepatitis A in our study was 96.2%. and hepatitis E was 5.8%. Prevalence of HAV IgM positive was 96.2%, prevalence of hepatitis A virus (HAV) and hepatitis E virus (HEV) positive was 1.9% and prevalence of HEV IgM positive was 5.8%.
**Conclusions:** Prevalence of hepatitis A in our study was 96.2%. Hence, HAV was the most common etiological factor causing acute viral hepatitis in children. It's important to create awareness in the society regarding preventive measures like hygienic food practices and improved sanitation which is of utmost importance in its prevention.

**Keywords:** Children, Clinical profile, Hepatotropic, Viral hepatitis

## INTRODUCTION

Hepatitis A virus (HAV) infection is a widespread disease, accounting for 1.4 million cases annually worldwide.[1] In high endemic areas the reported incidence of HAV is 150 per 100,000 per year.[1] Hepatitis means inflammation of the hepatocytes and can be caused by a variety of different viruses such as hepatitis A, B, C, D and E. Since the development of jaundice is a characteristic feature of liver

disease, a correct diagnosis can only be made by testing patients' sera for the presence of specific anti-viral antibodies.[2,3]

Viral hepatitis continues to be a major health problem in both developing and developed countries. This disorder is caused by the 5 pathogenic hepatotropic viruses recognized to date: hepatitis A (HAV), B (HBV), C (HCV), D (HDV), and E (HEV) viruses. Many other viruses can also cause hepatitis usually as a component of multisystem disease. These include herpes simplex virus, cytomegalovirus, Epstein-Barr virus, Varicella Zoster virus, HIV, rubella, adenovirus, enterovirus, parvovirus B19, and arboviruses.[4] However, most frequent viral agents of AVH with major health burden in India are hepatitis A and hepatitis E.[5]

Overcrowding, poor hygiene, improper sanitation and contamination of food and water are predisposing factors, especially in developing, tropical countries. Severity of hepatitis A may vary from uncomplicated subclinical/clinical acute viral hepatitis (AVH) to acute or acute-on-chronic liver failure. In Indian subcontinent, proportion of overall AVH, acute liver failure, and acute-on-chronic liver failure cases attributed to HAV infection is around 70-85%, 40-60%, and 10-40%, respectively. This highlights the significance of HAV infection, especially when it is one of the only few vaccines preventable hepatic diseases. Universal immunisation against HAV in children in India is still controversial with limited national epidemiological data on HAV epidemiology.[6] Hepatitis B and hepatitis C are major global health problem. They can cause chronic infection which progress to cirrhosis, hepatic decompensation, and hepatocellular carcinoma.

### *Objectives*

This study aims to find the etiology, clinical features, laboratory profile and complications of acute viral hepatitis in children so that appropriate preventive measures and treatment can be suggested.

## METHODS

This prospective, hospital-based study was done in department of pediatrics, Midnapore Medical College, Paschim Medinipur of eastern India. Children between 6 months to 12 years who presented with fever and prodromal symptoms, with or without jaundice, abdominal pain, high coloured urine, pale-coloured stools with suspicion of acute viral hepatitis from February 2020 to July 2021were included in the study.

Sample size was determined by using the effect sizes from the previously published studies and with the help of following formula, where me=0.0285 (margin of error).

$$n = z^2 \frac{pq}{(me)^2}$$

Thus 52 children were included in the study based on the following inclusion and exclusion criteria.

### *Inclusion criteria*

Patients with acute onset of symptoms of viral hepatitis with more than 3-fold elevation of transaminases and positive for viral markers.

### *Exclusion criteria*

Patients with clinical symptoms for more than 6 months, patients with chronic liver disease (ruled out by history and laboratory tests), all patients of haemolytic anaemia with jaundice, patients of neonatal cholestasis/obstructive jaundice (ruled out by history and ultrasonography), patients more than 12 years of age and non-consenting parents of any patient were excluded.

Data collection was started after getting approval from the institutional ethical committee. Selection of the study subjects were done according to the inclusion and exclusion criteria. 52 children fulfilling the criteria were selected. All details of the study were explained to the patents/guardian and consent was obtained from each of them. Proper history and clinical examination were done and knowledge of the parents/guardian were assessed using a preformed questionnaire. Venous blood sample of 5 ml was collected from each of the patients and necessary laboratory investigations were done. Other investigations like ultrasonography, and chest X-ray were done where required.

Data has been collected, recorded and compiled on Microsoft excel data sheet. Statistical analysis was performed using statistical package for the social sciences (SPSS) software (version 19.0, SPSS Inc.). For continuous variables, data was presented as mean±standard deviation or median with range. A p value <0.05 was considered as statistically significant.

## RESULTS

A hospital based prospective study was carried out in Department of Pediatrics, Midnapore Medical College, Paschim Medinipur of eastern India. Total 52 children between 6 months to 12 years who presented with fever and prodromal symptoms, with or without jaundice, abdominal pain, high coloured urine, pale-coloured stools with suspicion of acute viral hepatitis from February 2020 to July 2021 were included in the study based on the inclusion and exclusion criteria.

In the present study, majority of them belongs from 5-8 years age group i.e. 27 (51.9%) followed by 13 (25%) from 9-12 years, 12 (23.1%) from 0-4 years age group. The youngest subject in our study group was of 2 years age, while the oldest was 11 years old. Mean age of the study population was 6.36±2.64 years. Majority of the patients were females i.e. 51.9% and remaining were males i.e.

48.1%. In majority of the patients, the duration of symptoms at presentation were 1-5 days i.e. in 27(51.9%) followed by 6-10 days in 34.6% and 11-15 days in 13.5%. Among the 52 children in our study, jaundice was most commonly observed symptom seen in 92.3% children followed by dark urine in 88.5%, fever in 84.6%, vomiting in 80.8%, abdominal pain and anorexia in 65.4%, constipation in 32.7% and clay stools in 30.8%. On examination, the prevalence of hepatomegaly was found to be 98.1% while 75% showed tenderness. Icterus was observed in 88.5% and splenomegaly in 26.9%.

Ascites and pallor were present in 21.2% and 17.3% respectively. Complications like altered sensorium, altered sleep and bleeding manifestations were noted in 3.8% of the patients (Table 2).

**Table 1: Distribution of children according to their socioeconomic status.**

| Socio economic status | Frequency | Percent |
|---|---|---|
| Upper middle | 7 | 13.5 |
| Lower middle | 31 | 59.6 |
| Upper lower | 12 | 23.1 |
| Lower | 2 | 3.8 |
| Total | 52 | 100.0 |
| **Water boiled/purified before use** | | |
| No | 34 | 65.4 |
| Yes | 18 | 34.6 |
| Total | 52 | 100.0 |
| **Unhygienic food habits** | | |
| No | 29 | 55.8 |
| Yes | 23 | 44.2 |
| Total | 52 | 100.0 |
| **Housing** | | |
| Kuccha | 25 | 48.1 |
| Pucca | 27 | 51.9 |
| Total | 52 | 100.0 |
| **Overcrowding** | | |
| No | 22 | 42.3 |
| Yes | 30 | 57.7 |
| Total | 52 | 100.0 |
| **Unhygienic sanitary practices** | | |
| No | 23 | 44.2 |
| Yes | 29 | 55.8 |
| Total | 52 | 100.0 |

Prevalence of hepatitis A in our study was 96.2%. Prevalence of hepatitis E in our study was 5.8%. USG findings revealed altered liver echotexture in 26.9%, contracted gall bladder in 67.3%, gall bladder wall thickening in 76.9%, splenomegaly in 23.1%, pleural effusion in 13.5% and ascites in 57.7% (Table 3).

Figure 1 shows that prevalence of HAV IgM positive was 96.2%, prevalence of HAV and HEV positive was 1.9% and prevalence of HEV IgM positive was 5.8%.

**Table 2: Distribution of children according to age group, gender, symptom duration, symptoms and clinical signs.**

| Age group in years | Frequency | Percent |
|---|---|---|
| 0 to 4 | 12 | 23.1 |
| 5 to 8 | 27 | 51.9 |
| 9 to 12 | 13 | 25.0 |
| Total | 52 | 100.0 |
| **Gender** | | |
| Male | 25 | 48.1 |
| Female | 27 | 51.9 |
| Total | 52 | 100.0 |
| **Clinical signs** | | |
| Icterus | 46 | 88.5 |
| Pallor | 9 | 17.3 |
| Ascites | 11 | 21.2 |
| Hepatomegaly | 51 | 98.1 |
| Tenderness in Rt hypochondrium | 39 | 75.0 |
| Left lobe | 22 | 42.3 |
| Splenomegaly | 14 | 26.9 |
| Edema | 9 | 17.3 |
| Altered sensorium | 2 | 3.8 |
| Altered sleep | 2 | 3.8 |
| Bleeding manifestations | 2 | 3.8 |
| **Symptoms** | | |
| Fever | 44 | 84.6 |
| Jaundice | 48 | 92.3 |
| Vomiting | 42 | 80.8 |
| Abdominal pain | 34 | 65.4 |
| Anorexia | 34 | 65.4 |
| Dark urine | 46 | 88.5 |
| Loose stools | 8 | 15.4 |
| Pruritis | 8 | 15.4 |
| Constipation | 17 | 32.7 |
| Clay stools | 16 | 30.8 |
| **Symptom duration** | | |
| 1 to 5 | 27 | 51.9 |
| 6 to 10 | 18 | 34.6 |
| 11 to 15 | 7 | 13.5 |
| Total | 52 | 100.0 |

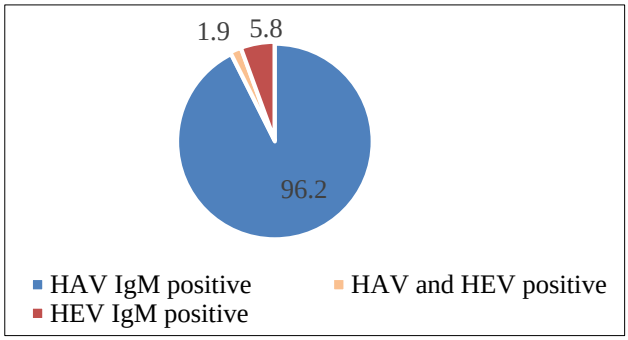


**Figure 1: Prevalence of coinfection with HAV and HEV virus.**

**Table 3: Distribution of children according to prevalence of hepatitis A, hepatitis E, USG findings.**

| Hepatitis A (HAV IgM) | Frequency | Percent |
|---|---|---|
| No | 2 | 3.8 |
| Yes | 50 | 96.2 |
| Total | 52 | 100.0 |
| **Hepatitis E (HAV IgM)** | | |
| No | 49 | 94.2 |
| Yes | 3 | 5.8 |
| Total | 52 | 100.0 |
| **Findings on USG** | | |
| Altered liver echotexture | 14 | 26.9 |
| Contracted gall bladder | 35 | 67.3 |
| Gall bladder wall thickening | 40 | 76.9 |
| Splenomegaly on USG | 12 | 23.1 |
| Pleural effusion | 7 | 13.5 |
| Ascites on USG | 30 | 57.7 |

Prevalence of HAV was more in 5-8 years age (50%), 52% of them being females. 58% of the subjects belonged to lower middle class. 52% of the subjects lived in pucca house and overcrowding was noted in 56% of the houses. 66% subjects did not boil water before consumption, 44% were involved in unhygienic food habits and 54% were using unhygienic sanitary practices. There was no significant association between prevalence of hepatitis A and above-mentioned demographic variables (Table 4).

Prevalence of HEV was more in 5-8 years age (100%), 66.7% were males. All the subjects were from lower middle class of which 66.7% of the subjects were living in kuccha house all of which showed overcrowding. 66.7% subjects did not boiled water before consumption, 33.3% were involved in unhygienic food habits and 100% were using unhygienic sanitary practices.

There was no significant association between prevalence of hepatitis E and above-mentioned demographic variables (Table 5).

No statistically significant difference was seen with respect to age group in the mean values of SGOT, SGPT, serum albumin, serum globulin, ALP, INR, TP, HB, WBC, PLT, Na and K+ in our study (Table 6).

**Table 4: Prevalence of hepatitis A with sociodemographic variables.**

| Variables | HAV IgM absent (n-2) | | HAV IgM present (n-50) | | Total | P value | Inference |
|---|---|---|---|---|---|---|---|
| | No | % | No | % | | | |
| **Age group in years** | | | | | | | |
| 0 to 4 | 0 | 0.0 | 12 | 24.0 | 12 | 0.38 | Not significant |
| 5 to 8 | 2 | 100.0 | 25 | 50.0 | 27 | | |
| 9 to 12 | 0 | 0.0 | 13 | 26.0 | 13 | | |
| **Gender** | | | | | | | |
| Male | 1 | 50.0 | 24 | 48.0 | 25 | 0.95 | Not significant |
| Female | 1 | 50.0 | 26 | 52.0 | 27 | | |
| **SES** | | | | | | | |
| Upper middle | 0 | 0.0 | 7 | 14.0 | 7 | 0.7 | Not significant |
| Lower middle | 2 | 100.0 | 29 | 58.0 | 31 | | |
| Upper lower | 0 | 0.0 | 12 | 24.0 | 12 | | |
| Lower | 0 | 0.0 | 2 | 4.0 | 2 | | |
| **Housing** | | | | | | | |
| Kuccha | 1 | 50.0 | 24 | 48.0 | 25 | 0.95 | Not significant |
| Pucca | 1 | 50.0 | 26 | 52.0 | 27 | | |
| **Overcrowding** | | | | | | | |
| No | 0 | 0.0 | 22 | 44.0 | 22 | 0.21 | Not significant |
| Yes | 2 | 100.0 | 28 | 56.0 | 30 | | |
| **Water boiled/purified before** | | | | | | | |
| No | 1 | 50.0 | 33 | 66.0 | 34 | 0.64 | Not significant |
| Yes | 1 | 50.0 | 17 | 34.0 | 18 | | |
| **Unhygienic food habits** | | | | | | | |
| No | 1 | 50.0 | 28 | 56.0 | 29 | 0.86 | Not significant |
| Yes | 1 | 50.0 | 22 | 44.0 | 23 | | |
| **Unhygienic sanitary practices** | | | | | | | |
| No | 0 | 0.0 | 23 | 46.0 | 23 | 0.19 | Not significant |
| Yes | 2 | 100.0 | 27 | 54.0 | 29 | | |

Continued.

**Table 5: Prevalence of hepatitis E with sociodemographic variables.**

| Variables | HAV IgM absent (n-49) | | HAV IgM present (n-3) | | Total | P value | Inference |
|---|---|---|---|---|---|---|---|
| | No | % | No | % | | | |
| **Age group in years** | | | | | | | |
| 5 to 8 | 24 | 49.0 | 3 | 100.0 | 27 | | |
| 9 to 12 | 13 | 26.5 | 0 | 0.0 | 13 | | |
| **Gender** | | | | | | | |
| Male | 23 | 46.9 | 2 | 66.7 | 25 | 0.05 | Not significant |
| Female | 26 | 53.1 | 1 | 33.3 | 27 | | |
| **SES** | | | | | | | |
| Upper middle | 7 | 14.3 | 0 | 0.0 | 7 | 0.54 | Not significant |
| Lower middle | 28 | 57.1 | 3 | 100.0 | 31 | | |
| Upper lower | 12 | 24.5 | 0 | 0.0 | 12 | | |
| Lower | 2 | 4.1 | 0 | 0.0 | 2 | | |
| **Housing** | | | | | | | |
| Kuccha | 23 | 46.9 | 2 | 66.7 | 25 | 0.5 | Not significant |
| Pucca | 26 | 53.1 | 1 | 33.3 | 27 | | |
| **Overcrowding** | | | | | | | |
| No | 22 | 44.9 | 0 | 0.0 | 22 | 0.12 | Not significant |
| Yes | 27 | 55.1 | 3 | 100.0 | 30 | | |
| **Water boiled/purified before** | | | | | | | |
| No | 33 | 67.3 | 1 | 33.3 | 34 | 0.22 | Not significant |
| Yes | 16 | 32.7 | 2 | 66.7 | 18 | | |
| **Unhygienic food habits** | | | | | | | |
| No | 27 | 55.1 | 2 | 66.7 | 29 | 0.69 | Not significant |
| Yes | 22 | 44.9 | 1 | 33.3 | 23 | | |
| **Unhygienic sanitary practices** | | | | | | | |
| No | 23 | 46.9 | 0 | 0.0 | 23 | 0.11 | Not significant |
| Yes | 26 | 53.1 | 3 | 100.0 | 29 | | |

**Table 6: Comparison of laboratory variables between different age group.**

| Age group | N | Mean | Standard deviation | t | P | Inference |
|---|---|---|---|---|---|---|
| **SGPT (ALT)** | | | | | | |
| 0 to 4 | 12 | 1004.97 | 694.69 | -1.876 | 0.066 (>0.05) | Not significant |
| 5 to 8 | 27 | 1550.57 | 1360.59 | | | |
| 9 to 12 | 13 | 1445 | 1260 | | | |
| **SGOT (AST)** | | | | | | |
| 0 to 4 | 12 | 827.9 | 888.93 | -1.352 | 0.182 (>0.05) | Not significant |
| 5 to 8 | 27 | 1186.35 | 1021.1 | | | |
| 9 to 12 | 13 | 1102.14 | 1002 | | | |
| **S. albumin** | | | | | | |
| 0 to 4 | 12 | 3.6 | 0.45 | -0.378 | 0.707 (>0.05) | Not significant |
| 5 to 8 | 27 | 3.65 | 0.52 | | | |
| 9 to 12 | 13 | 3.1 | 0.52 | | | |
| **S. globulin** | | | | | | |
| 0 to 4 | 12 | 3.05 | 0.44 | 0.713 | 0.479 (>0.05) | Not significant |
| 5 to 8 | 27 | 2.94 | 0.64 | | | |
| 9 to 12 | 13 | 2.24 | 0.54 | | | |
| **ALP** | | | | | | |
| 0 to 4 | 12 | 516.97 | 219.88 | 0.3 | 0.765 (>0.05) | Not significant |
| 5 to 8 | 27 | 498.74 | 214.74 | | | |
| 9 to 12 | 13 | 468.2 | 214.74 | | | |
| **INR** | | | | | | |
| 0 to 4 | 12 | 1.13 | 0.21 | -1.414 | 0.164 | Not significant |

Continued.

| Age group | N | Mean | Standard deviation | t | P | Inference |
|---|---|---|---|---|---|---|
| 5 to 8 | 27 | 1.33 | 0.73 | | (>0.05) | |
| 9 to 12 | 13 | 1.02 | 0.36 | | | |
| **TP** | | | | | | |
| 0 to 4 | 12 | 6.64 | 0.54 | | | |
| 5 to 8 | 27 | 6.57 | 0.86 | 0.323 | 0.748 (>0.05) | Not significant |
| 9 to 12 | 13 | 5.52 | 0.78 | | | |
| **Hb** | | | | | | |
| 0 to 4 | 12 | 11.69 | 0.97 | | | |
| 5 to 8 | 27 | 11.2 | 1.14 | 1.656 | 0.104 (>0.05) | Not significant |
| 9 to 12 | 13 | 11.15 | 0.98 | | | |
| **WBC ($\times 10^3$)** | | | | | | |
| 0 to 4 | 12 | 10.61 | 3.02 | | | |
| 5 to 8 | 27 | 9.47 | 3.27 | 1.295 | 0.201 (>0.05) | Not significant |
| 9 to 12 | 13 | 9.1 | 3.25 | | | |
| **PLT ($\times 10^5$)** | | | | | | |
| 0 to 4 | 12 | 2.34 | 0.86 | | | |
| 5 to 8 | 27 | 2.44 | 1.31 | -0.322 | 0.749 (>0.05) | Not significant |
| 9 to 12 | 13 | 2.21 | 1.31 | | | |
| **$Na^+$** | | | | | | |
| 0 to 4 | 12 | 129.96 | 25.03 | | | |
| 5 to 8 | 27 | 126.3 | 28.1 | 0.132 | 0.896 (>0.05) | Not significant |
| 9 to 12 | 13 | 122 | 21.3 | | | |
| **$K^+$** | | | | | | |
| 0 to 4 | 12 | 4.16 | 0.57 | | | |
| 5 to 8 | 27 | 4.01 | 0.42 | 1.026 | 0.31 (>0.05) | Not significant |
| 9 to 12 | 13 | 3.36 | 0.25 | | | |

## DISCUSSION

Acute hepatitis in children can be due to both infectious and non-infectious causes. In developing countries like India, it still remains a major cause of morbidity and mortality in children. The causative factors and clinical manifestations of acute hepatitis in pediatric population varies from region to region with a wide range of demographic factors contributing to various etiological and clinical picture.

Hence, this study was conducted in Midnapore Medical College and Hospital, Paschim Medinipur over a period of 18 months in children aged between 6 months to 12 years, to determine the etiology, clinical picture, laboratory manifestation and complications of acute viral hepatitis. 52 children with acute onset of symptoms of viral hepatitis and elevated liver enzyme levels were included and study was carried out

We included total 52 children in our study. Majority of them belongs from 5-8 years age group i.e. 27 (51.9%) followed by 13 (25%) from 9-12 years, 12 (23.1%) from 0-4 years age group. Mean age of the study population was 6.36±2.64 years. Majority of the patients were females i.e. 51.9% and remaining were males i.e. 48.1%.

Girish N et al[7] reported in his study that out of 48 cases, 26 were girls (54%), 22 were boys (46%). This represents slight female predominance in their study, comparable with our study. 16 cases (33.3%) were aged more than 10 years, 14 cases (29.1%) were aged between 6 and 10 years and 12 cases (25%) were between 3 and 6 years. Only 6 cases (12.5%) reported less than 3 years. This study showed majority of the cases had age more than 10 years, while in our study, most cases were in the age group of 5-8 years. Female predominance is observed our study, this is comparable with study done by Parekh et al, in which they also reported girls' predominance, whereas other studies reported boys' predominance.[8-10]

Jaundice was the most commonly observed symptom by 92.3% children followed by dark urine in 88.5%, fever in 84.6%, vomiting in 80.8%, abdominal pain and anorexia in 65.4%, constipation in 32.7% and clay stools in 30.8%. Common signs included hepatomegaly seen 98.1% children among which 75% had tenderness while icterus was observed in 88.5% and splenomegaly in 26.9%.

Girish et al reported that fever is the presenting symptom in all cases (100%), jaundice and vomiting in 40 cases each (83.3%), these followed by dark coloured urine (70.8%), abdominal pain (68.7%), nausea (16.7%), anorexia and loose stools each accounting 8.3%, altered sensorium in 6.2%[7] Icterus was present in all cases (100%), hepatomegaly in 76% of cases followed by pallor in 35.4% cases, edema in 20.8%, ascites in 16.7%, splenomegaly in 10.4%.

Prevalence of hepatitis A in our study was 96.2% while that of hepatitis E was 5.8%. We observed high prevalence of hepatitis A in our study.

Girish et al reported that prevalence of hepatitis A was 83.3% and hepatitis E was 14.3%.[7] A study by Behera et al in eastern part of India also showed highest incidence of HAV infection among children.[11]

In our study, 5-8 years is the most commonly observed age group with 50% prevalence of HAV. All children with HEV infection also belonged to this age group. Another study done by Kamath et al also reported maximum number of cases (61.6%) in 5–10-year age group.[12]

Liver function test (LFT) is the prime investigation in hepatitis patient. It helps to diagnose and assess the severity and outcome of the patient. Moon et al considered hypoalbuminemia as a severe indicator along with total serum bilirubin.[13] Alanine aminotransferase (ALT, serum glutamate pyruvate transaminase) is specific for liver, whereas aspartate aminotransferase (AST, serum glutamic-oxaloacetic transaminase) is derived from other organs in addition to the liver. AST and ALT can rise markedly in acute hepatocellular injury, a several fold increase can be a result of acute viral hepatitis, differential rise and fall of AST and ALT can provide useful information. In acute viral hepatitis, the rise in ALT may be greater than the rise of AST.[14]

Serial assessment of the enzymes is more important to know the progression, which may not be linear. Synthetic dysfunction is reflected by a combination of abnormal protein synthesis (prolonged prothrombin time, elevated international normalized ratio, low serum albumin levels).

In our study, 2 patients (3.8%) expired due to fulminant hepatic failure. These figures were almost consistent in studies done by Dhak et al and Ghosh et al which showed fulminant hepatic failure in 4.65% and 5.26% patients respectively.[15,16]

## CONCLUSION

Prevalence of hepatitis A in our study was 96.2%. Prevalence of hepatitis E in our study was 5.8%. Hence, HAV was the most common etiological factor causing acute viral hepatitis in children. Jaundice was most commonly observed symptom by 92.3% children followed by dark urine in 88.5%, fever in 84.6%, vomiting in 80.8%. Hepatitis is a major public health problem. It's important to create awareness in the society regarding preventive measures like hygienic food practices and improved sanitation which is of utmost importance in its prevention. As complications and fatal outcomes are seen in the higher age group, health education regarding availability of vaccine especially in rural side is also of significant importance and may be included in the national immunization schedule.

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