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### RESEARCH ARTICLE

#### STUDY OF HEPATITIS E INFECTION IN ANTENATAL WOMEN

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##### Manuscript History

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#### Abstract

The prevalence of HEV antibodies in the serum of pregnant females remains undetected and its pregnancy outcomes in infected women also need to be delineated.

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#### Introduction:

1. Hepatitis E is a liver disease caused by the HEV virus.
2. 4 different types of genotypes-1,2,3,4-1 and 2 found in humans.
3. Mode of transmission- feco-oral route.
4. Usually self-limiting and resolves in 2-6 weeks.
5. Affects particularly in 2<sup>nd</sup> and 3<sup>rd</sup> trimester in pregnancy.
6. An altered innate immune response to incipient hepatitis E infection during pregnancy affects macrophage function and toll like receptor signaling maybe a factor in development of fulminant hepatitis.
7. Mortality in pregnancy due to Hepatitis E-15-25%
8. Outcome in pregnancy-abortions, stillbirths, neonatal deaths.

#### Objectives:

1. To screen pregnant females for hepatitis E infection.
2. To study maternal effect of hepatitis E infection.
3. To study effect of hepatitis E infection on the neonatal outcome.

#### Methodology:

##### Type of study:

Prospective observational study.

##### Duration of study:

August 2020 to June 2021

##### Sample size:

200 Pregnant women.

#### Method:

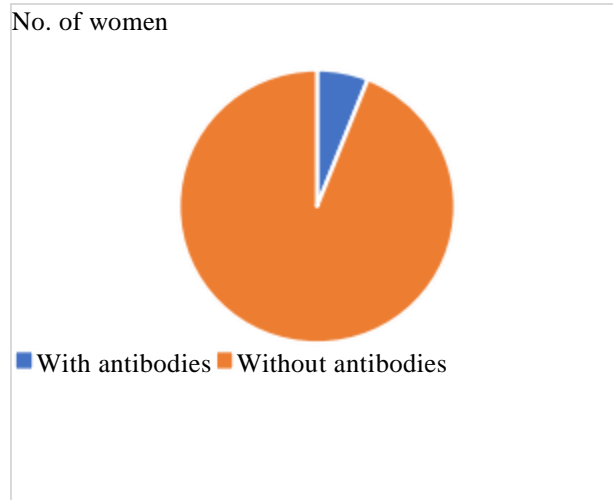
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1. Written informed consent taken.
2. Patients were subjected to full history taking, thorough clinical examination, IgM and IgG antibody to HEV using ELISA kits.
3. Liver function tests and abdominal ultrasounds were done in hepatitis E positive patients.
4. The patients were followed up for maternal and fetal outcome.
5. The data was analyzed using statistical tests .

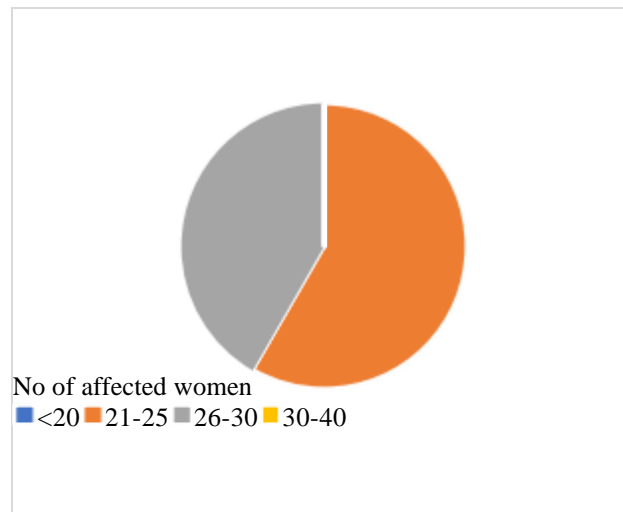
**Results:**

12 pregnant females (6%) were found to have IgG antibodies for HEV.



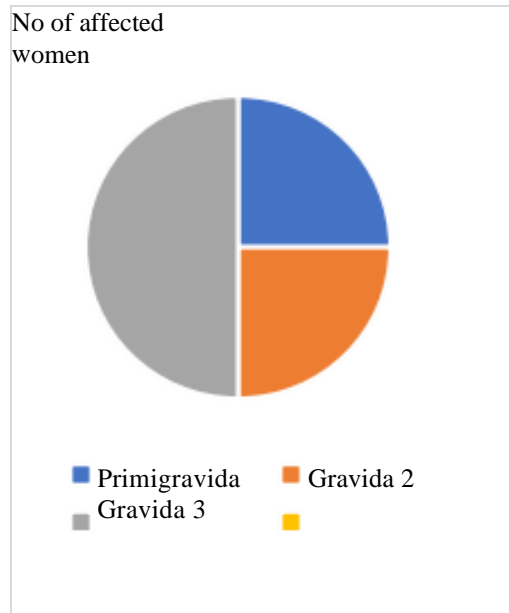
1.) Age wise distribution in HEV positive women

- <20-0
- 21-25-7
- 26-30-5
- 30-40-0



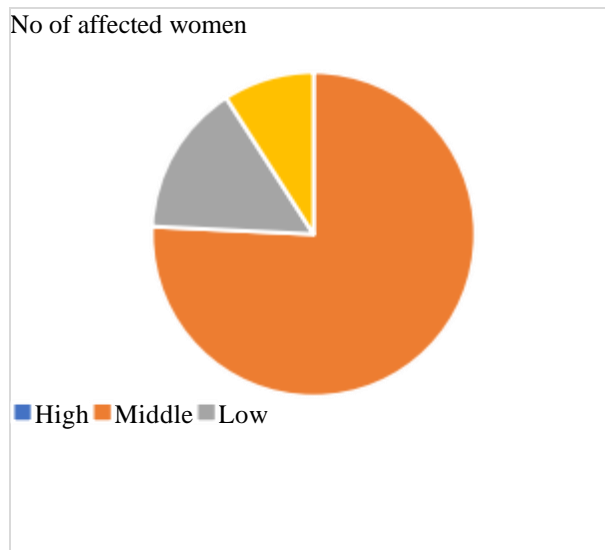
2.) Parity wise distribution in HEV positive women

- Primigravida-3
- Gravida2-3
- Gravida3-6



3.) Socioeconomic status wise distribution in HEV positive women

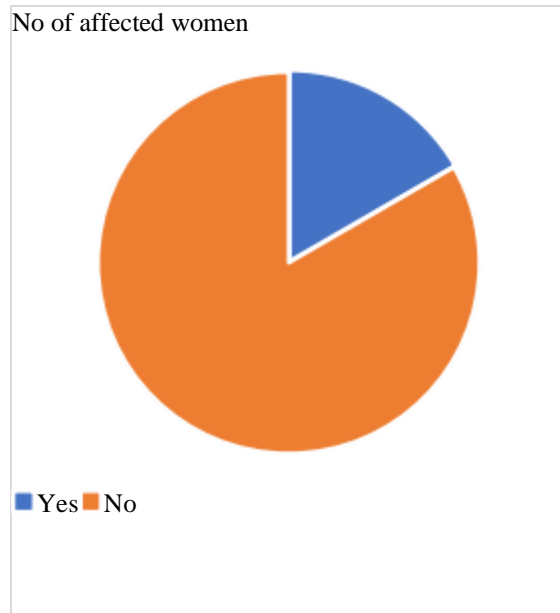
- High-0
- Middle-10
- Low-2



4.) H/O viral hepatitis in HEV positive women:

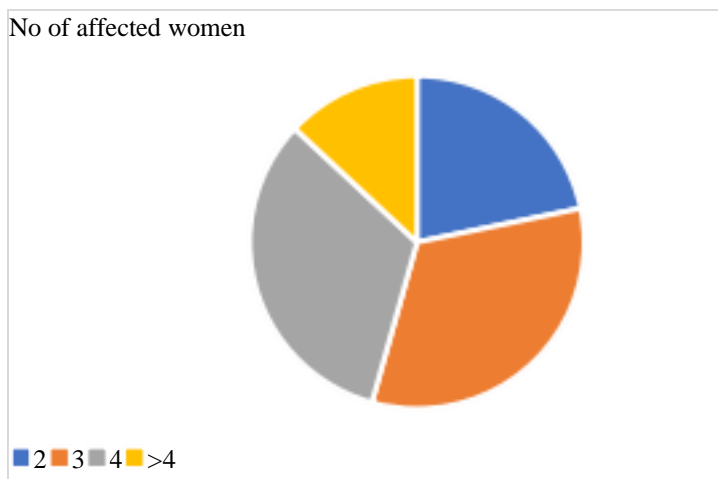
- Yes-2
- No-10

None of the affected women had received HbSAg vaccination.



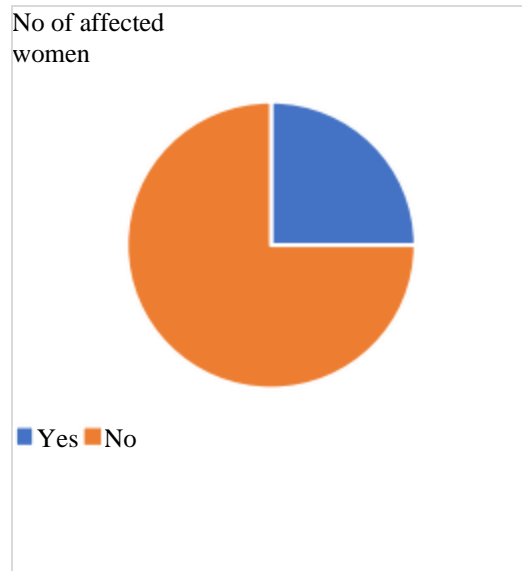
5.) No of people residing in a house of a HEV positive women

- 2-2
- 3-3
- 4-3
- >4-4



6.) H/O tattooing

- Yes-4
- No-8

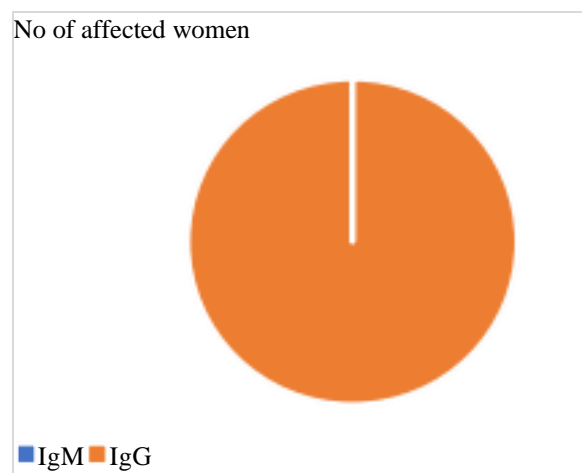


7.) Antibody positivity

- IgM-0
- IgG-12

All infections were found to be old.

No ongoing was infection was noted



8.) Maternal outcome of HEV positive women- none of the HEV positive women had jaundice.

- 3 out of 200 women were found to have jaundice, which was not co-related to HEV.
- Evaluation for the cause of jaundice was done in the above-mentioned cases which was as follows:
  1. HELLP syndrome.
  2. Hepatitis A infection.
  3. Acute fatty liver of pregnancy.
- Liver function tests were within normal limits in all 12 patients.
- Ultrasounds did not reveal hepatomegaly.

- No abortions, stillbirths, neonatal deaths.

- Uneventful ANC period and delivery.

9.) Fetal outcome of affected women- Fetal outcome in all the deliveries of affected women was uneventful.

### **Conclusion:**

**Prevalence of Hepatitis E infection in serum of pregnant women is only 6% , which is also due to old infections.**

- Old hepatitis E infection has a benign course and does not affect the and fetal outcome.
- From this ongoing study we concluded that hepatitis E infection is not an issue of major concern in and around the city of Pune.

### **Shortcomings:**

- It is an ongoing study.
- Avidity test was not performed.
- Limited sample size.

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