

Impact of hepatitis B family screening, counselling and education program on active case detection: a step towards elimination through Preventive Hepatology clinic in India

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Introduction

- Globally, less than 10% of 296 million with chronic hepatitis B virus (HBV) infection had been diagnosed and only 2% treated. Increasing testing and access to HBV care and treatment requires multiple innovative approaches
- Recent studies document vertical transmission as a common mode of transmission for Hepatitis B infection, highlighting the importance of educating, counselling and screening of the first degree relatives of chronic Hepatitis B (CHB) infected patients along with their spouse

Aim

- To educate, counsel and screen first degree relatives and spouse of CHB patients for HBV viral markers
- determine the positivity rate of HBsAg, Anti-HBc (Total) and Anti-HBs among the first degree relatives and spouse of CHB patients

Method

- A multi-level approach was utilized to implement Hepatitis B Family Screening, Counselling and Education Program to persuade first degree relatives (parents, siblings, and children) and spouse of Hepatitis B virus (HBV) infected patients for screening against viral markers for HBV
- The enrolled and counselled relatives got themselves tested, either at our institute's virology laboratory or from any recognized laboratory of the country as per their convenience
- A 3 tier counselling and education approach by Gastroenterologist, Preventive Specialist, and Resident was adopted to convince first degree relatives and spouse for screening for 3 HBV markers: - HBsAg, Anti-HBc (total), & Anti-HBs
- Necessary actions were taken as per the lab results i.e. vaccination, further investigations for treatment eligibility or treatment
- The information and education material was also distributed to the relatives, consisting of literature on natural history of hepatitis B infection, available screening and diagnostic tests, treatment and free availability of all services through national program in India.

Conclusions

- Familial clustering of HBV infection was seen. Opportunistic screening and multilevel counselling of family members was an effective strategy for active case finding
- Younger index cases, with two out of every four mothers being infected strongly suggest vertical transmission as the most common mode of infection
- The data suggests family screening as an additional testing strategy to eliminate hepatitis B by test and treat approach

Acknowledgements

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References

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Contact information

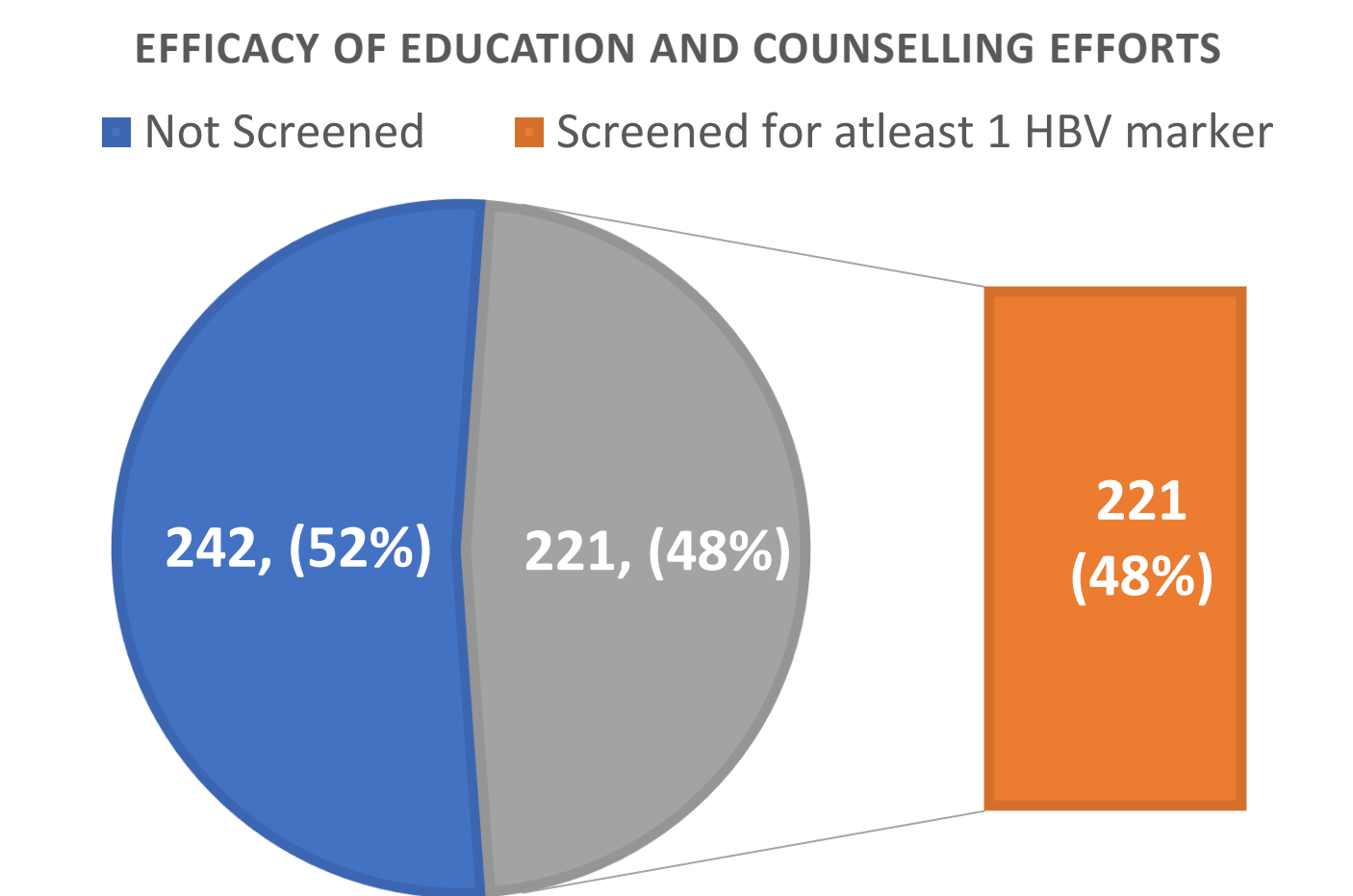
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Results

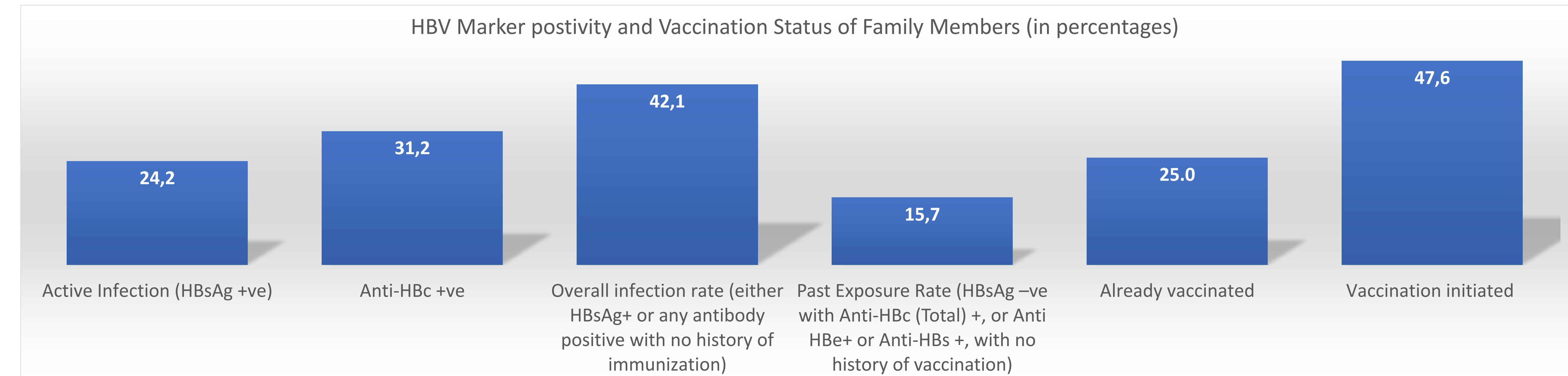
- A total 93 index cases of chronic hepatitis B (CHB) infection (age 33.1±12.3 years, 72.8% males) were enrolled.
- A total of 40.3% were HBeAg +ve. Median HBV DNA levels was 29.8 (IQR, 0.8-5312) (x 103) IU/ mL

Sex Distribution	Males	Females	Total
Index Cases	68 (73 %)	25 (27 %)	93
Family members	115 (52%)	106 (48 %)	221

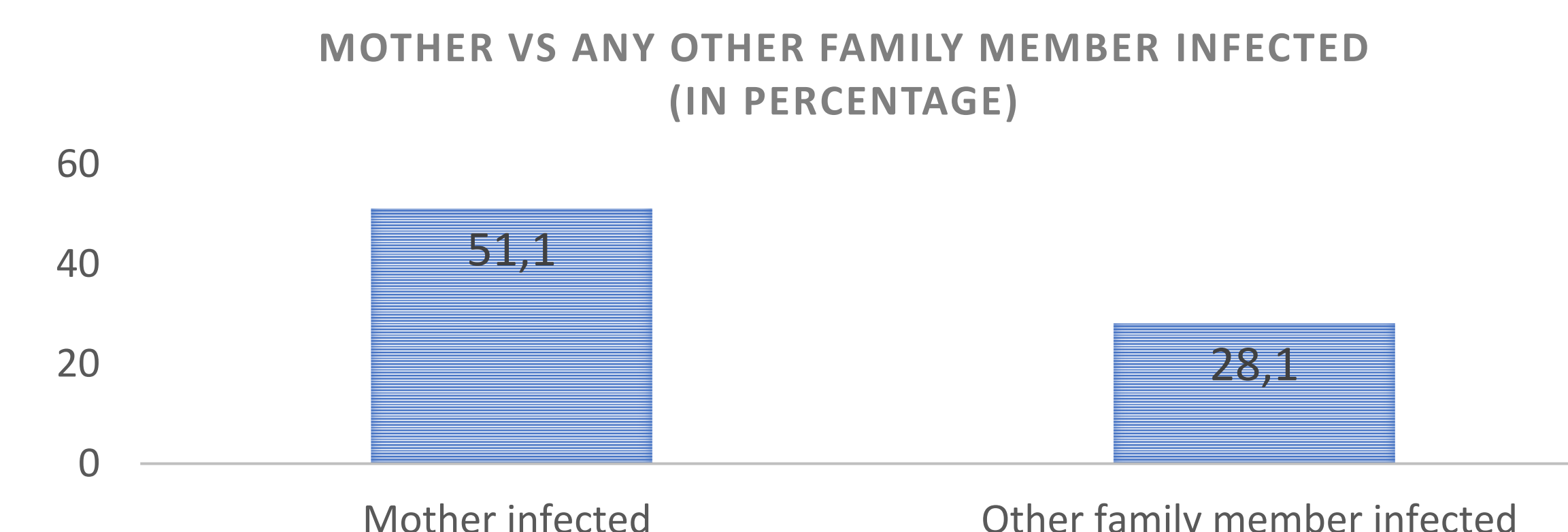
HBeAg Positivity	Males	Females	Total
Positive	48 (42 %)	40 (38 %)	88 (40 %)
Negative	60 (53%)	52 (49 %)	112 (51 %)
Status not known	6 (5 %)	14 (13 %)	20 (9 %)



- We have successfully screened 221 contacts out of 463 relatives which include parents, siblings, children and spouse.
- The efficacy of Education and Coun program was 47.7% (221/463).



- HBsAg was found positive in one fourth (24.2%) of contacts and Anti-HBc was positive in about two third (31.2%) of contacts. The overall infection rate (either HBsAg+ or any antibody positive with no history of immunization) was 42.1%. Past Exposure Rate (HBsAg -ve with Anti-HBc (Total) +, or Anti HBe+ or Anti-HBs +, with no history of vaccination) was seen in 15.7%. Out of 128 uninfected individuals, 32 were already vaccinated, and 61 (47.6%) were get vaccinated after the counselling.
- Prevalence of HBV infection was significantly higher among mothers (51.1%) as compared to other family members (28.1%) (OR 3.2, 95%CI 2.3-4.6) supporting vertical transmission



The odds ratio (OR) for infection rate among mothers Vs other family members was 3.2 with 95 % Confidence Interval from 2.3 to 4.6 supporting vertical transmission