

# Hepatitis B Immunity: Are You Infected or Vaccinated?



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## INTRODUCTION

Presence of antibody of hepatitis B surface antigen is defined as recovery and immunity from hepatitis B virus infection. This study aims to calculate the prevalence of hepatitis B antibody among the adult Malaysian population and to determine whether the presence of immunity indicates an immune response to natural infection or vaccination by age group.

## RESULTS

Socio-demographic characteristics	n	%
<b>Strata</b>		
Urban	2188	53.7
Rural	1890	46.3
<b>Gender</b>		
Male	1919	47.1
Female	2159	52.9
<b>Age group</b>		
15 - 29 years	1255	30.8
30 -39 years	785	19.2
40 - 49 years	684	16.8
50 - 59 years	628	15.4
60 years and above	726	17.8
<b>Ethnicity</b>		
Malay	2493	61.1
Chinese	387	9.5
Indian	200	4.9
Other Bumiputeras	704	17.3
Others	294	7.2
<b>Marital status</b>		
Single	1165	28.6
Married/Living with partner	2561	62.8
Widowed (er)/Divorcee	351	8.6

Table 1: Socio-demographic characteristics of the participants (N=4,071).

## MATERIALS AND METHODS

- **Study design:** Population-based cross-sectional study
- **Sample size:** 4,071 of participants aged  $\geq 15$  years old
- **Data collection:** Household study. Face-to-face interview and blood taking<sup>1</sup>.
- **Laboratory Testing:** anti-HBs, HBsAg and anti-HBc
- **Analysis:** Descriptive and complex sampling analysis using SPSS v26 software.

Unweighted count	Estimated population	Prevalence (95% CI)
<b>Prevalence of HBV antibody</b>		
1258	8,146,456	33.7 (28.6, 39.2)
<b>Prevalence of HBV antibody due to natural infection</b>		
531	2,844,334	11.8 (10.2, 13.6)
<b>Prevalence of HBV antibody due to vaccination</b>		
717	5,258,386	21.8 (17.6, 26.6)

Table 2: Prevalence of hepatitis B antibody.

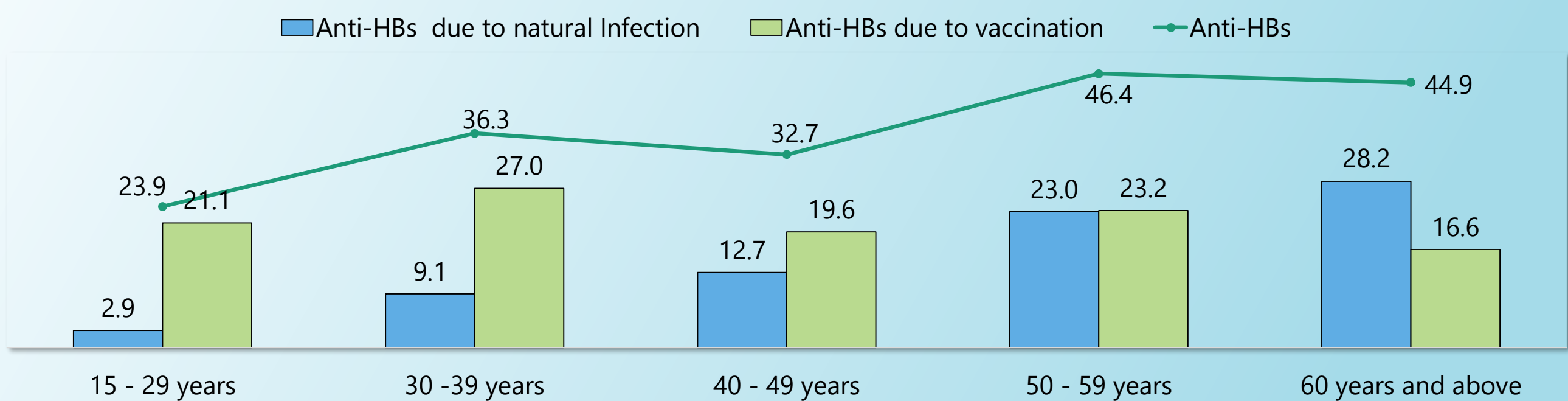


Table 3: Prevalence of hepatitis B antibody according to age group.

## DISCUSSION & CONCLUSION

- In Malaysia, individuals born before 1989 are not covered under compulsory Hep B vaccination programme.
- Anti-HBs prevalence is higher in the 30+ age group as result of vaccination: Own initiatives to get vaccinated, such as the requirement for documentation to begin a new job or to enroll in future education, the need for healthcare workers, and one's own awareness of healthy living.
- Previous study showed that 37.5% of adults respondents were willing to pay for their own Hepatitis B vaccination<sup>2</sup>.
- Natural infection-related antibodies indicate that the person was current/previously infected. Early detection (screening) is crucial to preventing and controlling the transmission of HBV especially among high-risk group.
- More awareness could change the national perception towards self-paid hepatitis B virus vaccination and increase hepatitis B vaccine coverage.

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## REFERENCES

1. National Health and Morbidity Survey (NHMS) 2020. Access on 20 March, 2023. <https://iku.moh.gov.my> > nhms-2020.
2. Yogambigai R, Alias R, Niazlin MT, et. al. Willingness to pay for hepatitis B vaccination in Selangor, Malaysia: A cross-sectional household survey. Plos One. 2019; 4(4): e0215125.