



Trends of Hepatitis B Surface Antigen Carriage in Central Nepal

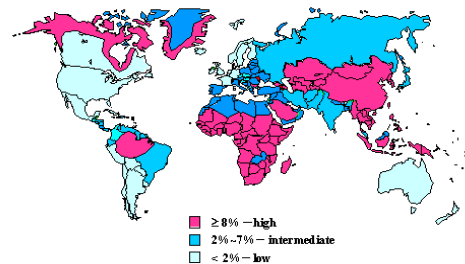
A Reality Check from a Mass Screening after Nationwide HBV Vaccination

Dhruba Acharya

Kathmandu University School of Medical Sciences
Dhulikhel, Nepal

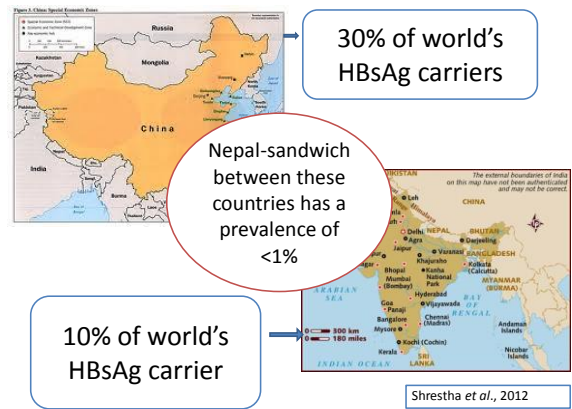


Worldwide Seroprevalence of HBV infection



WHO: Hepatitis B, Fact sheet 204 (revised 2008)

- Approximately around 2 billion people worldwide have been infected with HBV. (Te HS et al., 2010)
- In the South East Asian Region (SEAR), approx 14-16 million people are infected with HBV every year whereas 6% among 98 million HBsAg carriers are present.



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Quarterly
Review

Chronic hepatitis B in Nepal: An Asian country with low prevalence of HBV Infection

Santosh Man Shrestha and Shobhana Shrestha

HEPATITIS B AND MALARIA AMONG NEPALESE BLOOD DONORS

Prakash Ghimire*, Bishnu Bhakta Dhungyel* and Bishnu Raj Tiwari*

*Central Department of Microbiology, Tribhuvan University, Kirtipur, Kathmandu, Nepal.

Seroepidemiology Of Hepatitis B Virus Infection Diagnosed At A Teaching Hospital In Western Nepal: A Prospective Study

EASOW J M*, SHANKAR P R**, TULADHAR R***, SINGH Y I****



Started in 1982

As of July 2011, 179 countries vaccinate infants against HBV as part of their vaccination schedules



However, to the best of our knowledge, a comprehensive single center study has not yet been done on general population

Scenario from Nepal- WHO

- The prevalence of HBV infection and the predominant mode of transmission vary greatly depending on the geographical region and epidemiologic factors.

Total Morbidity Period 2004-2005	Among
30,071 (0.31%)	9,699,858 hospital visits

In 2003, the Hepatitis B (HepB) vaccine was introduced in a routine immunization program in Nepal. (Karki et al., 2008)

Methodology

Study design: Retrospective study (Data were retrieved from the hospital laboratory records)

Study area: Dhulikhel Hospital, Kathmandu University Hospital

Study duration: January 2005 – December 2012

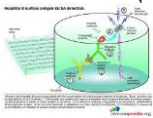
Study population: Inpatients and outpatients visiting various departments of Dhulikhel Hospital-Kathmandu University Hospital, Kavre, Nepal.

Sample size: 25418

Laboratory procedures performed

- **Immuno assay:**

a. screening of HBsAg by Hepacard (J. Mitra and Co., New Dehli, India)



positive samples for HBsAg were confirmed by third generation ELISA (AccuDiag™ ELISA, Diagnostic Automation/Cortez Diagnostics, Inc. USA)

- **Statistical analysis:**

- Statistical Package for Social Sciences (SPSS, version 17)
- t- test and ANOVA test were applied to analyze the difference of HBV sero-prevalance between different strata
- Level of significance was set at $p < 0.05$

- **Ethical issues:**

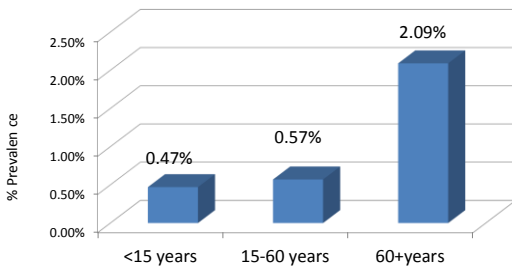
Approved by Institutional Review Committee of DH-KUH

Results

Distribution of respondents based on age, sex and ethnicity

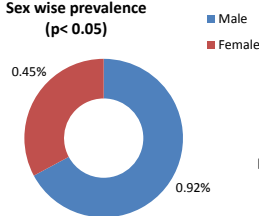
Variables		Frequency	Percent
Age (yrs)	<15 years	430	1.69
	15-60 years	23889	93.98
	60+ years	1099	4.32
Sex	Male	9716	38.22
	Female	15703	61.78
Ethnicity	Indo-Nepalese	12081	47.53
	Tibeto-Nepalese	13339	52.48

Age wise distribution of seroprevalence of Hepatitis B

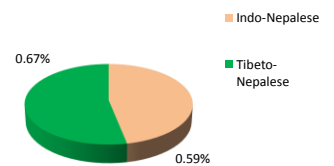


(ANOVA test, $F=2.796$; $p=0.08$)

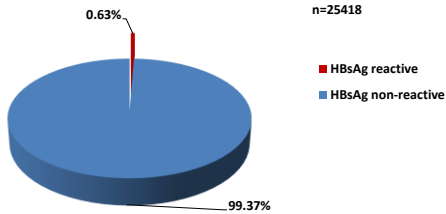
Sex wise prevalence ($p < 0.05$)



Ethnic wise prevalence ($p > 0.05$)



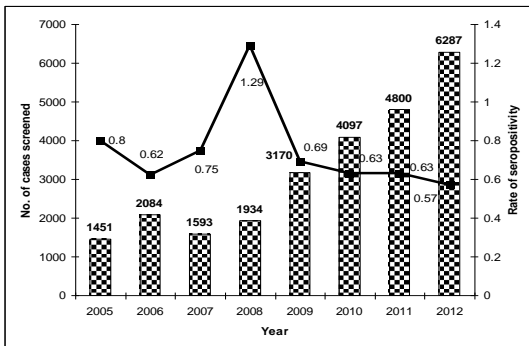
Overall seroprevalence of Hepatitis B infection



Demographic characteristics and HBsAg seropositivity of study participants

Variables	Frequency N (%)	HBsAg Seropositivity n (%)	p-value
Age			
>15	430 (1.69)	2 (0.47)	
16-60	23889 (93.98)	136 (0.57)	
<60	1099 (4.32)	23 (2.09)	p< 0.05
Gender			
Male	9716 (38.22)	90 (0.92)	p< 0.05
Female	15703 (61.78)	71 (0.45)	
Ethnicity			
Tibeto-Nepalese	12081 (47.53)	71 (0.59)	p>0.05
Indo-Nepalese	13338 (52.48)	90 (0.67)	
Total	25418 (100)	161 (0.62)	

The rate of HBsAg carriage and annual cases of patients screened at Dhulikhel Hospital-Kathmandu University Hospital from 2005 to 2012.



Conclusion

- Nepal lies within a low prevalence of HBV infection according to WHO classification
- Male and higher age groups were predominant in infected individuals suggesting horizontal route as major mode of viral transmission
- Reduction of childhood HBV infection can be attributed to the effectiveness of ongoing nationwide vaccination program

Acknowledgement

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- Institutional Review Committee of DH-KUH

