



A population based study on the seroprevalence of viral hepatitis in Hong Kong

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03 April, 2018

Summary of the Impact

- Viral hepatitis is very common in Hong Kong
- Epidemiological studies of viral hepatitis in Hong Kong is lacking
- This study was setup to:
 - Determine changes in epidemiology of hepatitis A and hepatitis E
 - Determine the effectiveness in universal hepatitis B vaccination programme (started since 1988)
 - Assess the potential burden of occult hepatitis B
 - Future healthcare planning

Underpinning Research

- Viral hepatitis is a statutory notifiable disease in Hong Kong
- Department of Health published report on viral hepatitis in Hong Kong periodically
- Accurate assessment of the data is difficult due to:
 - reporting bias – only acute, symptomatic cases admitted to hospitals were reported
 - Selection bias – data collected when screening for particular group (e.g. police workforce, healthcare workers etc)

Underpinning Research

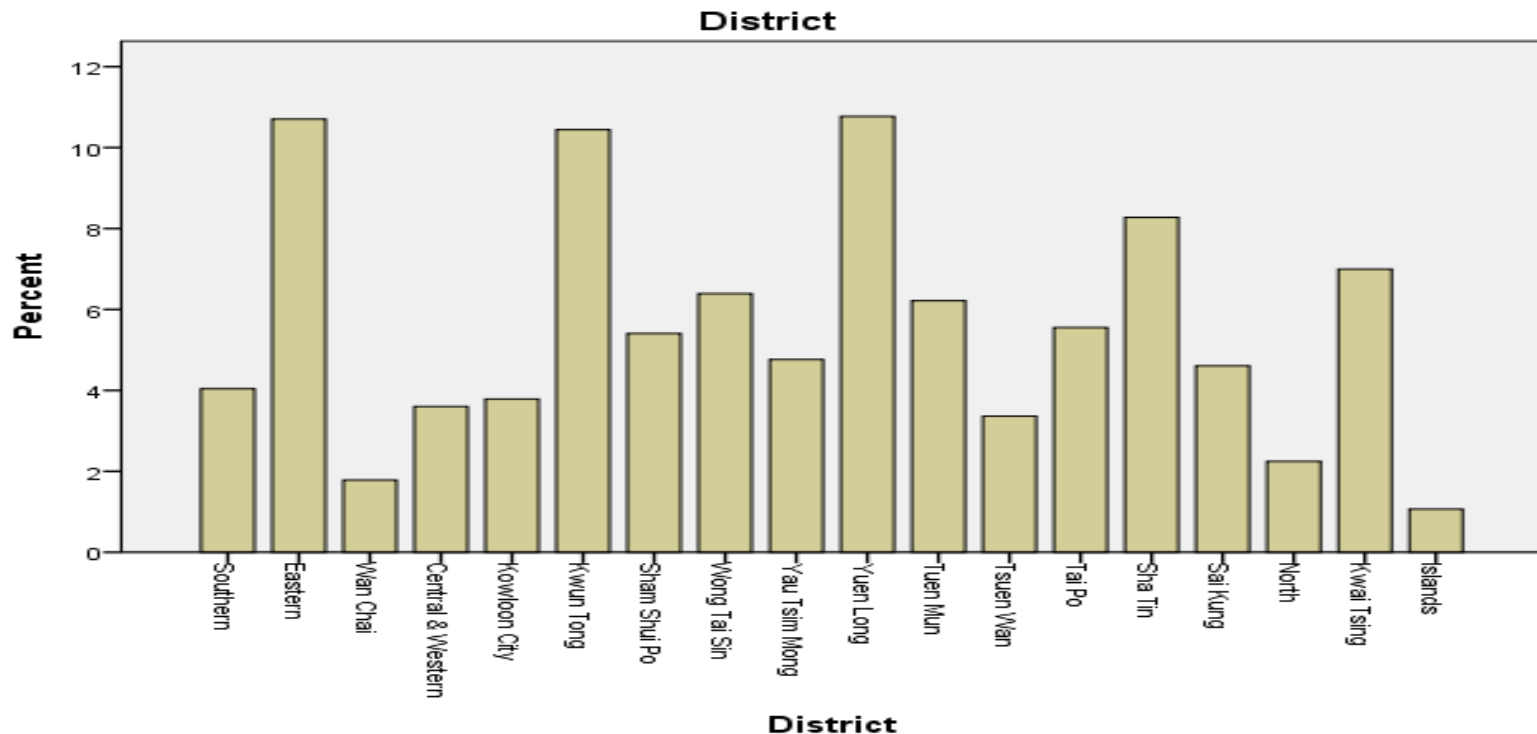
- Comprehensive epidemiological study in Hong Kong is lacking
- This study can help to fill in the missing viral hepatitis data
- No general population data on a special group of patients termed “occult hepatitis B (OHB) carrier”
 - Able to transmit HBV infection through blood donation
 - Risk of HBV reactivation during chemotherapy / immunosuppressive therapy

Underpinning Research

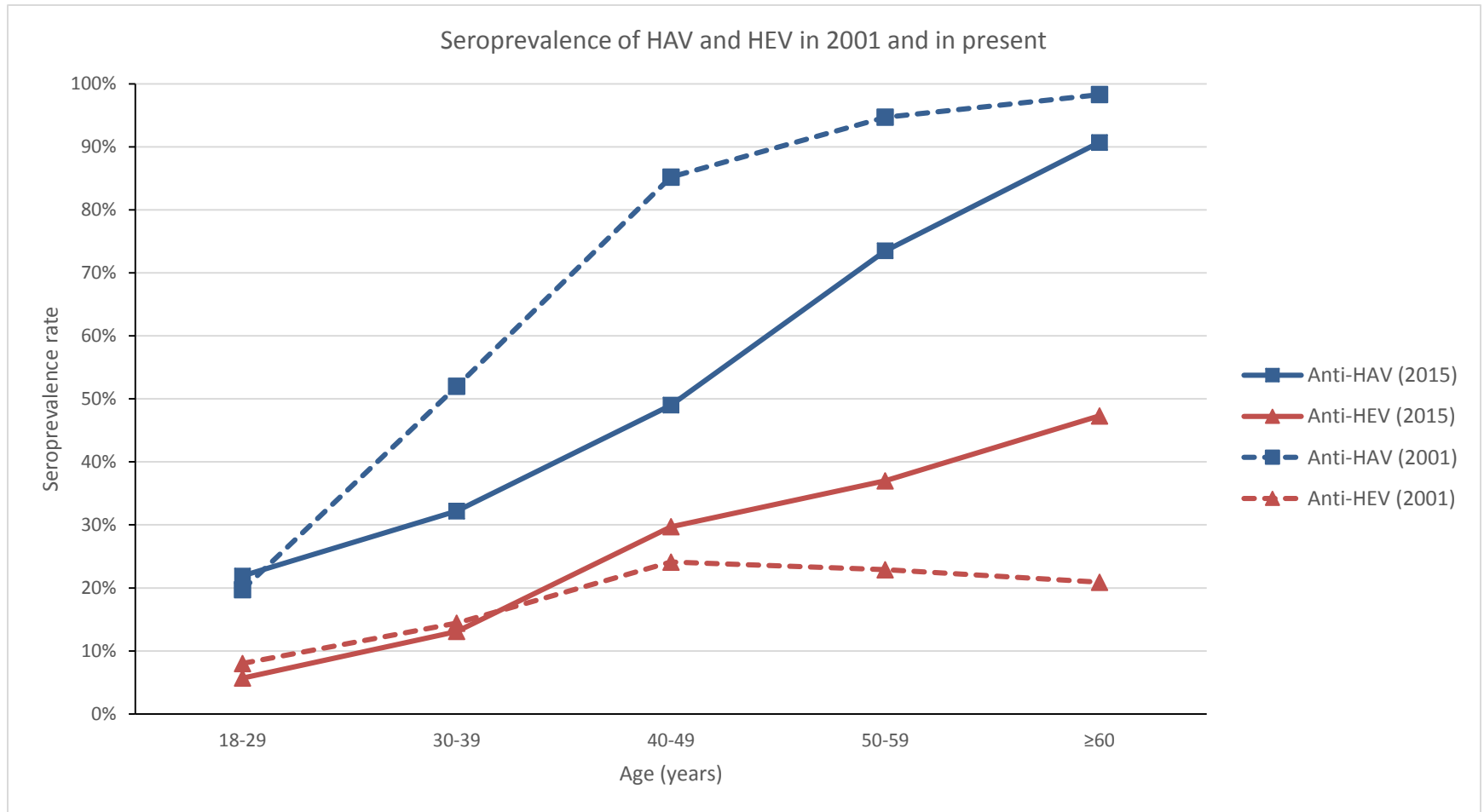
- Our study began in Feb 2015
- Collaborated with Hong Kong Liver Foundation (NGO aims to promote service, education and research for liver diseases for Hong Kong peoples) and School of Public Health
- We visited different district each month to engage local residents, give out health seminar and to raise public awareness of viral hepatitis

Demographics

- Recruited 10,256 subjects over 19 month
- Mean age: Male 50.4 ± 16 ; Female 52.3 ± 14



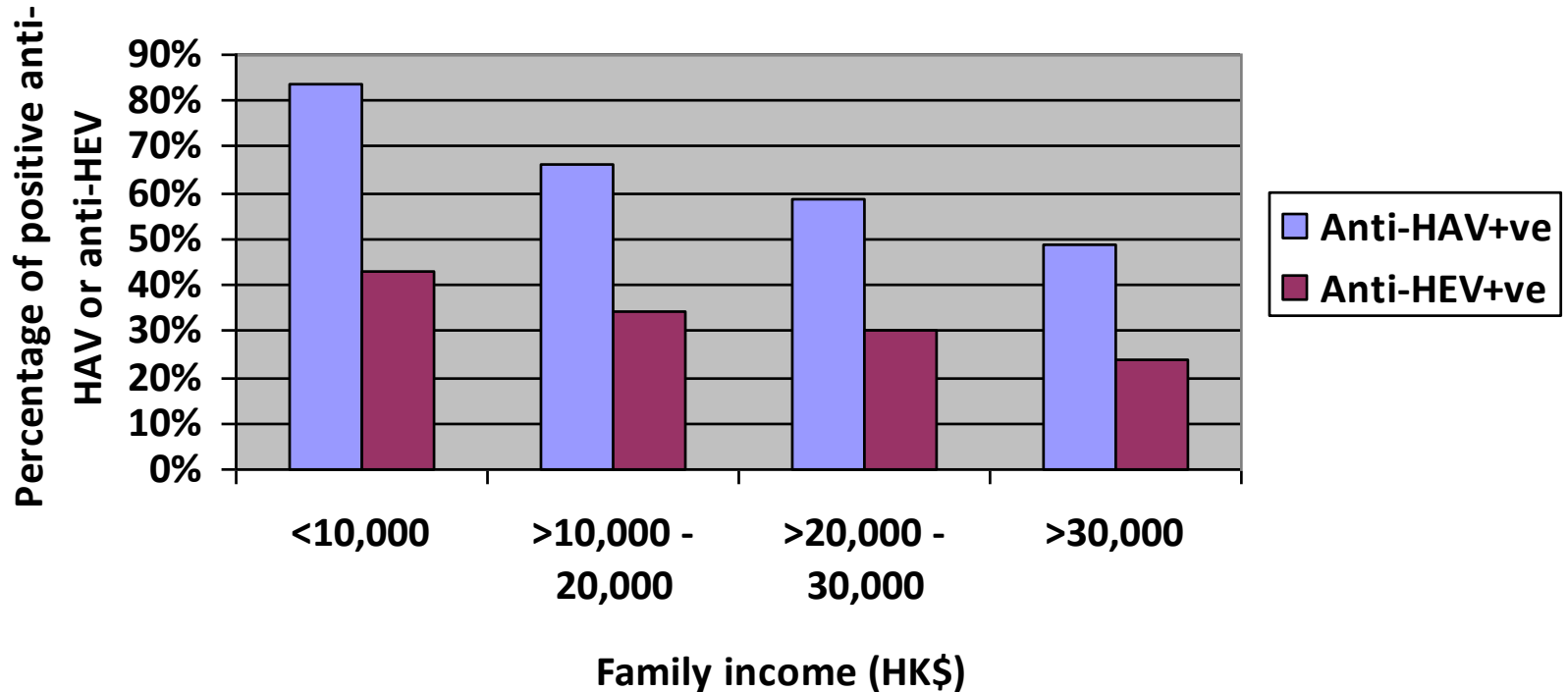
Prevalence of HAV and HEV



Prevalence of HAV 65.1% (71% in 2001)
Prevalence of HEV 26.5% (18.8% in 2001)

Results – Hepatitis A and E

Positive anti-HAV and anti-HEV against family income



Results – Hepatitis B

- Overall HBV prevalence 7.8% (8.8% in 2001)
- In universal vaccination group (<28 years old) 3.4% vs 8.3% (without universal vaccination)

Age group (y)	Positive HBeAg [N(%)]	Negative HBeAg [N(%)]	Mean HBV DNA (IU/mL)
<26	7 (36.8%)	12 (63.2%)	1.0×10^8
26-35	16 (21.3%)	56 (74.7%)	2.1×10^7
36-45	24 (14.9%)	136 (84.5%)	5.2×10^6
46-55	17 (9.6%)	157 (88.2%)	4.1×10^5
56-65	9 (3.7%)	233 (96.3%)	1.0×10^4
>65	5 (4.0%)	119 (94.4%)	6.5×10^5
Overall	78 (9.7)	713 (89.0%)	2.1×10^7

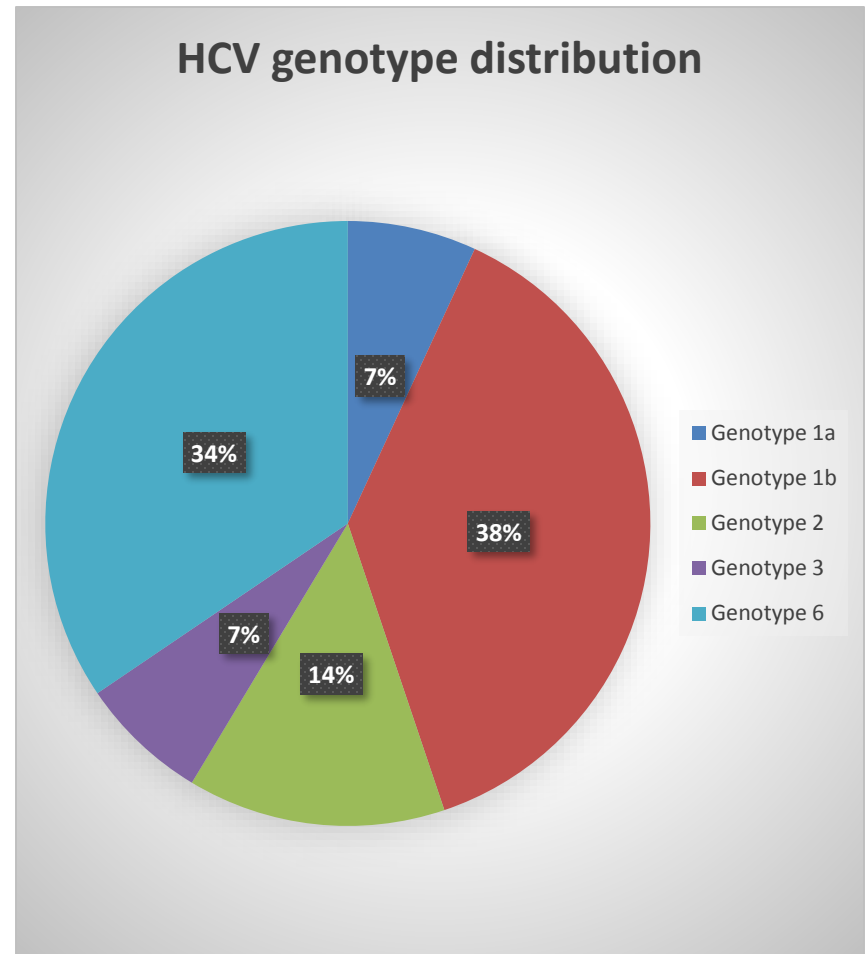
Results – Hepatitis B

- Overall anti-HBc prevalence 37.3%
- Rates increased with age
- Implications in checking anti-HBc before chemotherapy or immunosuppressive therapy if HBsAg was negative

Age group	Positive anti-HBc [N(%)]
<26 years	38 (5.4%)
26-35 years	130 (13.8%)
36-45 years	431 (32.7%)
46-55 years	703 (34.1%)
56-65 years	1252 (44.7%)
66-75 years	794 (57.8%)
>75 years	171 (74.0%)
Overall	3519 (37.3%)

Results – Hepatitis C

- Overall prevalence for hepatitis C 0.5%
- 60.4% had detectable HCV RNA
- Commonest genotype 1 (44.8% of which 84.6% were of 1b), genotype 6 (34.4%), genotype 2 (13.8%) and genotype 3 (6.9%)



Engagement

- The study was the first large scale study on viral hepatitis A to E in Hong Kong
- Public awareness of viral hepatitis was raised through the health seminar talks
- Demonstrated significant portion of HBV carriers were unknown to themselves
- Referred HBV or HCV carriers to doctors for follow up
- Coverage in newspaper and in TV

Impacts Achieved

- Demonstrated a significant change in hepatitis A and E prevalence over the years
- Support the effectiveness of universal hepatitis B vaccination program
- Support the importance of raising public awareness of chronic hepatitis B and screening
- First study to assess prevalence of occult hepatitis B carrier in the population
 - Need to liaise with Red Cross for implementing anti-HBc in screening before donation

Follow up on impact

- Randomly selected 400 subjects with HBV identified by this survey
 - 60% subjects have made the follow-up in HA hospitals as of March 2018

Acknowledgement

- Thanks to Hong Kong Liver Foundation for looking for venues and other logistics coordination during the event
- All the volunteers from different health sectors in giving out health talks and helping in collecting blood samples