

THE LANCET

Gastroenterology & Hepatology

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Sarin SK, Kumar M, Eslam M, et al. Liver diseases in the Asia-Pacific region: a *Lancet Gastroenterology & Hepatology* Commission. *Lancet Gastroenterol Hepatol* 2019; published online Dec 15. [http://dx.doi.org/10.1016/S2468-1253\(19\)30342-5](http://dx.doi.org/10.1016/S2468-1253(19)30342-5).

Supplementary Table 1. Prevalence of HBsAg, anti-HBc and anti-HBc in 2007 and 2013 according to gender and age group in Indonesia*^[45,46]

Parameter	2007†						2013‡					
	N	% tested positive					N	% tested positive				
		M	F	1-14 years	>15 years	Overall		M	F	1-14 years	>15 years	Over all
HBsAg	10,391	9.7	9.3	8.3	9.6	9.4	40,791	8.0	6.4	6.8	7.1	7.1
Anti-HBc	18,867	36.4	30.1	10.9	34.7	32.8	38,312	37.9	27.7	6.7	35.5	31.9
Anti-HBs	16,904	34.4	28.8	32.2	28.8	30.6	39,759	41.8	31.2	30.5	36.5	35.6
Anti-HCV	11,762	0.82	0.82	0.5	0.92	0.82	40,233	1.1	0.9	0.6	1.1	1.0

*Source: National Health Survey (Riskesdas) 2007 and 2013. ^[45,46] †Collected from 21 provinces. ‡Collected from 33 provinces. N=number of samples examined. M=male; F=female

Supplementary Table 2. Risk factors, prevalence, population attributable risks (PARs) and preventable cases for hepatitis B and C in Pakistan; results from first national survey [53,54]

	HBV			HCV		
	Prevalence (%)	PAR	Preventable cases*	Prevalence (%)	PAR (95% CI)	Preventable cases*
No of IM injections						
<5	4.4	1.3(1.1-1.5)	-	4.4	6.1(5.5-6.7)	-
5-10	5.9	1.8(1.4-2.1)	-	5.9	4.2(4.1-4.5)	-
>10	8.1	3.5(2.9-3.9)	-	8.1	11.3(10.5-11.7)	-
Reuse of syringes for medications	6.8	2.7(2.2-3.1)	279,000	6.8	6.2(6.1-6.9)	1,575,000
Shaving by barbers	9.8	0.4(0.2-0.8)	94,500	9.8	7.9(7.1-8.2)	711,000
Sharing Tooth Brush / Miswak	4.2	2.5(1.9-3.1)	112,500	8.4	5.1(4.5-5.9)	459,000
Sharing Smoking utensils	5.5	4.4(3.8-4.9)	198,000	11.5	8.1(6.9-8.5)	729,000
Tattooing / Acupuncture with reused instruments	3.5	1.4(1.1-1.7)	63,000	8.3	5.0(4.3-5.6)	450,000
Ear / Nose Piercing	2.3	1.4(1.2-1.7)	63,000	5.8	5.9(5.2-6.1)	531,000
History of hospitalization	2.7	-	-	9.8	-	-
History of surgery	3.1	-	-	10.1	-	-

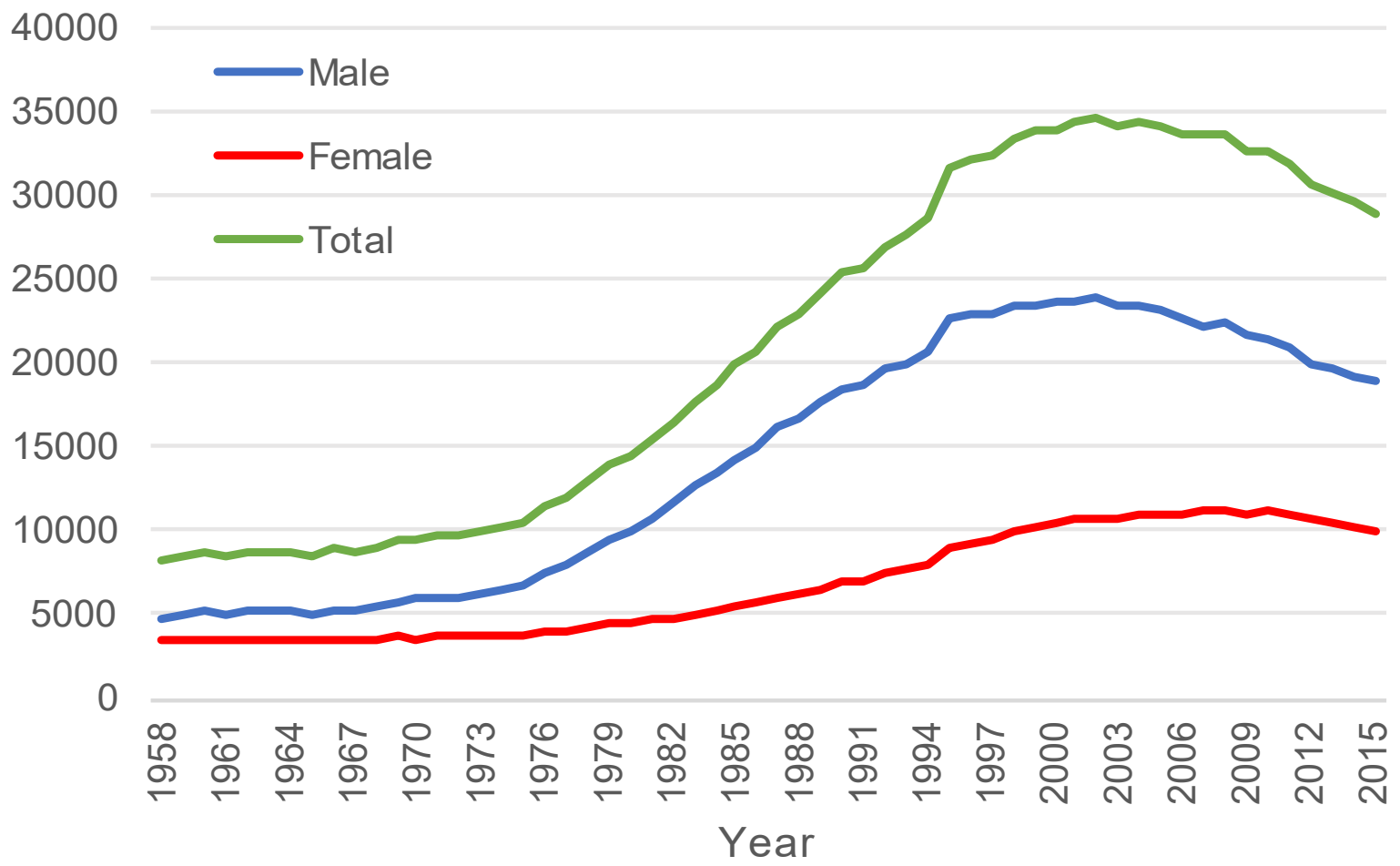
*Preventable cases: means no of cases reduced by eliminating a particular exposure, calculated based upon Pakistan population of 180 million

Supplementary Table 3.. Findings of first sentinel viral hepatitis surveillance system established by Field Epidemiology and Laboratory Training Program (FELTP) (June 2010 till October 2014)^[280,281] (Suspected cases 9369)

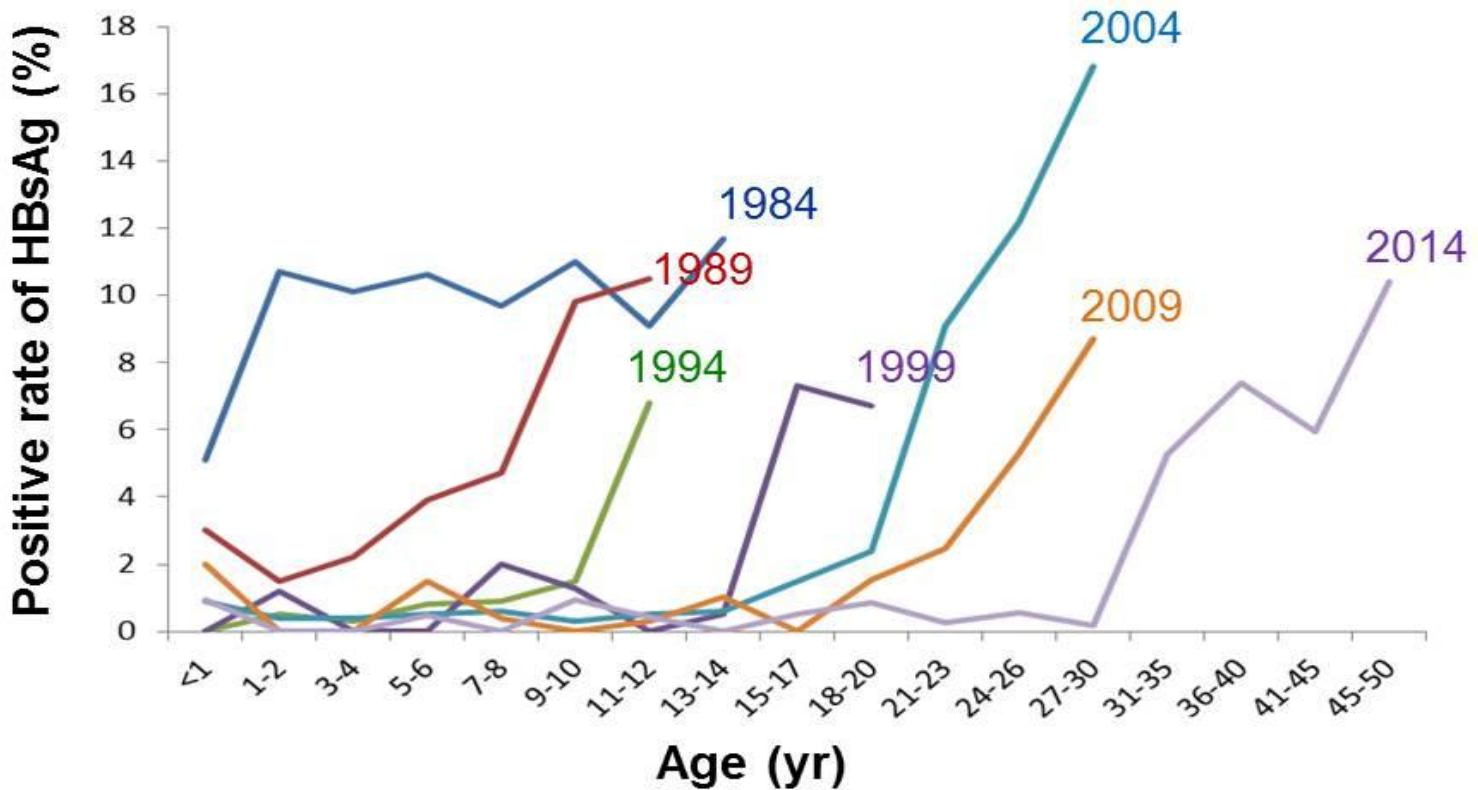
	All cases	Acute hepatitis A	Acute hepatitis E	New HBV cases	New HCV cases
	3825	679(18%)	468 (12%)	199(4%)	2479(65%)
Age group with Highest prevalence	20-39 years	6-19 years	6-29 years	20-29 years	30-39 years
Gender					
Male	57%	-	-	-	-
Female	43%	-		-	-
Risk factors (FELTP data June 2010 to March 2011)					
Therapeutic injections		46.8%	57.5%	62.3%	44.1%
Hospitalization rates					
History of blood transfusion		2.8%	1.1%	2.6%	3.4%
History of surgery		2.1%	6.9%	14.3%	7.7%
History of dental care		9.2%	13.8%	24.7%	18.6%
Skin piercing		4.3%	13.8%	18.2%	6.1%
Tattooing and acupuncture		1.4%	2.3%	3.9%	0.5%
Visit to barber (men)		92.8%	83.3%	82.4%	91.5%
Visit to beauty parlor (women)		23.2%	8.3%	19.2%	8.3%
IDUs		0.7%	0.0%	0.0%	0.3%
Drinking unboiled water (yes)		87.9%	82.8%	88.3%	87.9%

MoH: Ministry of health, NPHPC: National Program for Hepatitis Prevention and Control, IDU: injection drug use

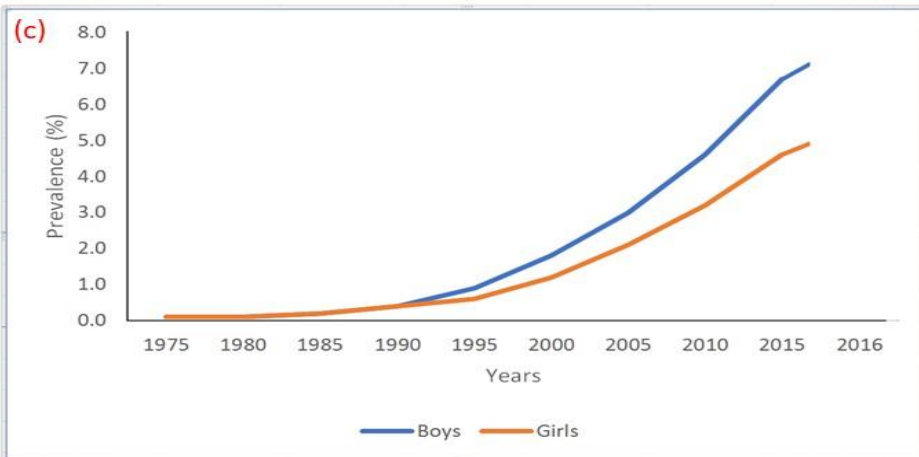
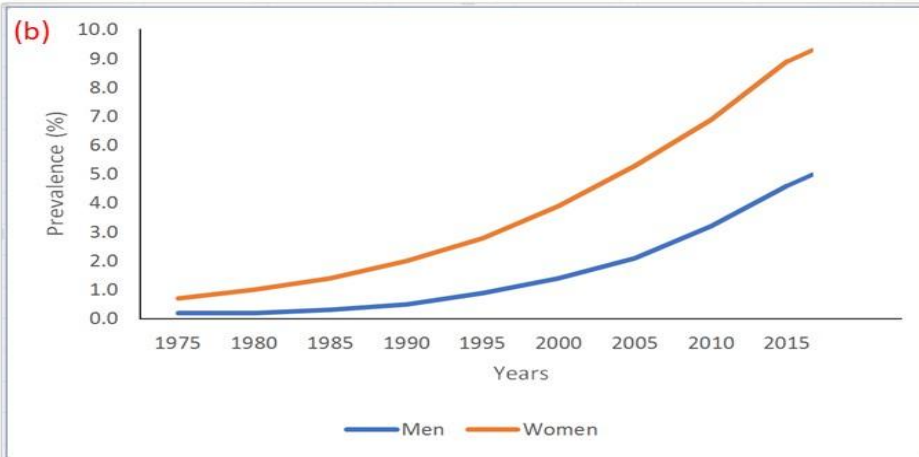
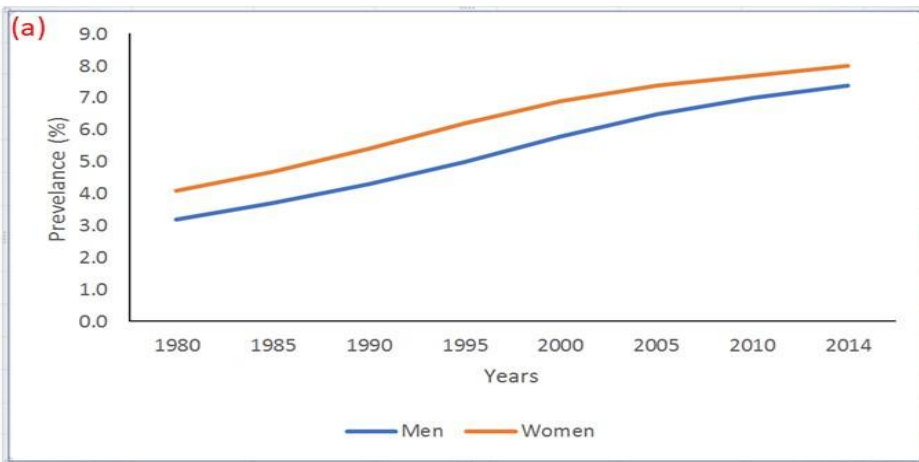
Therapeutic injections, minor or major surgeries, shaving by barbers were the most common factors associated with hepatitis B and C transmission. More than 2/3rd of individuals were drinking un-boiled water. Hence lack of sanitation and unsafe water seems to be responsible for endemicity of hepatitis A and E infection. As the sentinel sites were public hospitals in large cities, catchment population consist of urban poor, hence distant cases, other socioeconomic class and individuals with high risk behaviors catered by NGOs were missed. To improve generalizability and robust data there is need to increase number of sentinel sites and including private, NGO driven facilities as well.



Supplementary Figure 1. Mortality of Hepatocellular Carcinoma in Japan for the last 58 years (1958 – 2015)



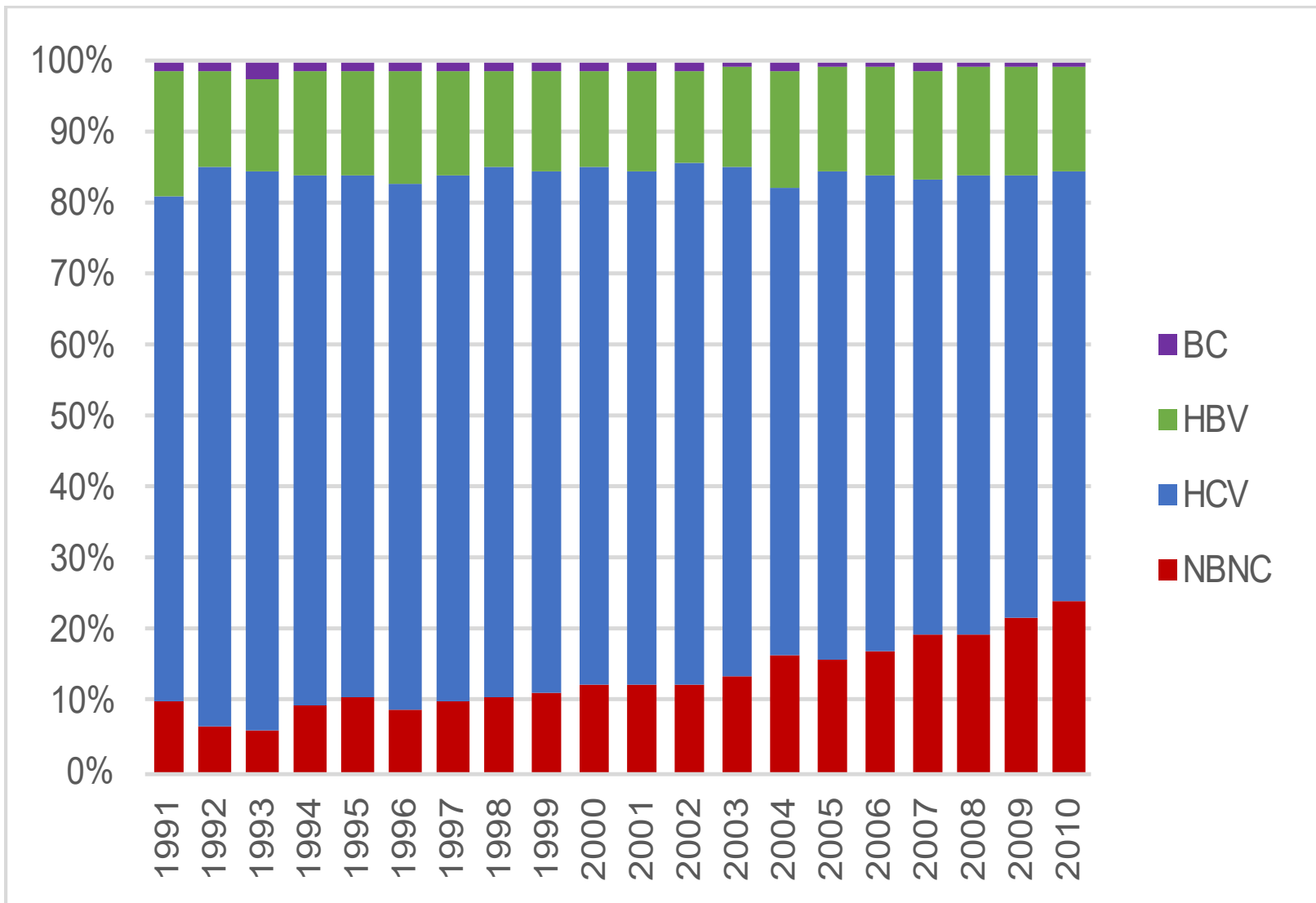
Supplementary Figure 2. Age-specific hepatitis B surface antigen (HBsAg) seropositivity rates from 1984 to 2014 in Taipei, Taiwan [Ni YH et al. Clin Gastroenterol Hepatol 2016;14: 1324- 1330]



Supplementary Figure 3. Prevalence of type 2 diabetes mellitus and obesity in Indonesia.

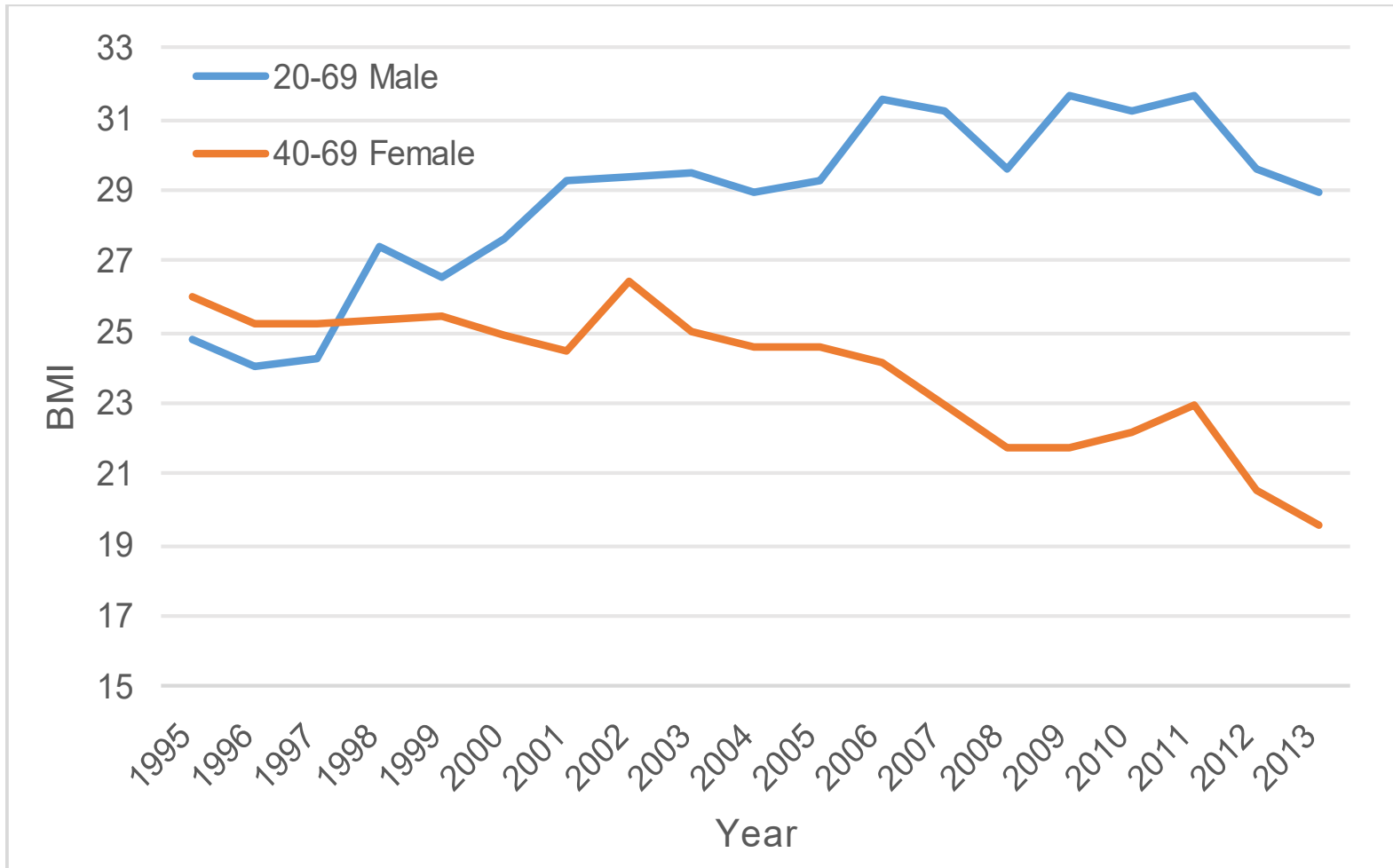
- (a) Type 2 diabetes mellitus in adult;
- (b) Obesity in adult (≥ 25 years old; $\text{BMI} \geq 25 \text{ kg/m}^2$);
- (c) Obesity in children and adolescence (5-19 years old; $\text{BMI} \geq 25 \text{ kg/m}^2$).

Graphs generated based on data from NCD Risk Factor Collaboration (NCD-RisC)



Supplementary Figure 4. Trend in background liver disease in hepatocellular carcinoma in Japan

Abbreviations: BC: HBV and HCV coinfection; NBNC: non-B non-C



Supplementary Figure 5. Changes of the rate of obesity (BMI \geq 25) per year by the genders in Japan.