

Trends in the Reported Cases of Hepatitis C Virus Infection, Ministry of Health, Kingdom of Saudi Arabia, 2008 – 2012

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Introduction

- Hepatitis C virus (HCV) infection affects large segment of the world's population.
- HCV infection affects people worldwide and should be a focus of public health research
- HCV is a main cause of liver cirrhosis and hepatocellular carcinoma and associated with increasing rates of morbidity and mortality

Objective

- To determine changes in distribution of HCV infection throughout Kingdom of Saudi Arabia (KSA) over 5 years from 2008 – 2012

Methods

- Data source: Department of Public Health, the Ministry of Health (MoH), which collects case reports monthly and annually from all administrative regions of confirmed cases of HCV via passive surveillance system
- Descriptive analysis was conducted for all cases reported to MoH over 5-year period from 2008 – 2012 to determine incidence rate (IR) trends of HCV by nationality, gender, and region

Figure 1. Administrative Regions of Kingdom of Saudi Arabia



Results

- Total of 12,336 cases of HCV infection were reported to KSA MoH from 2008 – 2012
- Observed a statistically significant reduction in the IRs of reported cases of HCV infection

Table 1. Reported cases of hepatitis C virus infection and incidence rates, Kingdom of Saudi Arabia, 2008 – 2012

Year	# Cases (IR ^o)	95% CI*
2008	2733 (10.6)	10.2 – 11
2009	2487 (9)	9 – 9.7
2010	2448 (8.5)	8.5 – 9.2
2011	2328 (7.9)	7.9 – 8.5
2012	2340 (7.7)	7.7 – 8.3
Total	12336	

^oIR = incidence rate per 100,000 population

*CI = confidence interval

- Saudi citizens had higher HCV infection IR than non-Saudis
- IRs significantly decreased for both Saudis and non-Saudis

Table 2. Reported cases of hepatitis C virus infection and incidence rates, by year and nationality, Kingdom of Saudi Arabia, 2008 – 2012.

Year	Saudi		Non-Saudi	
	# Cases (IR ^o)	95% CI	# Cases (IR ^o)	95% CI
2008	2082 (11.5)	11.0 – 12	651 (8.5)	7.8 – 9.1
2009	1882 (10.1)	9.7 – 10.6	605 (7.4)	6.9 – 8
2010	1737 (9.1)	8.7 – 9.6	711 (8.3)	7.7 – 8.9
2011	1677 (8.6)	8.2 – 9	651 (7.3)	6.7 – 7.8
2012	1692 (8.5)	8.1 – 8.9	648 (6.9)	6.4 – 7.4
Total	9070		3266	

^oIR = incidence rate per 100,000 population

*CI = confidence interval

- Males had consistently higher IR than females

Table 3. Reported cases of hepatitis C virus infection and incidence rates, by year and gender, Kingdom of Saudi Arabia, 2008 – 2012

Year	Male		Female	
	# Cases (IR ^o)	95% CI	# Cases (IR ^o)	95% CI
2008	1566 (10.8)	10.3 – 11.4	1167 (10.3)	9.7 – 11
2009	1442 (9.6)	9.1 – 10.1	1045 (9)	8.4 – 9.5
2010	1501 (9.6)	9.1 – 10.1	947 (7.9)	7.4 – 8.4
2011	1439 (8.9)	8.4 – 9.3	889 (7.2)	6.7 – 7.7
2012	1412 (8.5)	8.1 – 9	928 (7.3)	6.9 – 7.8
Total	7360		4976	

^oIR = incidence rate per 100,000 population

*CI = confidence interval

Conclusion

- Reported IRs of HCV infections significantly decreased over the 5-year study period in each of the thirteen administrative regions
- Despite some inconsistencies with the population data, the reduction in HCV infection is encouraging, and KSA MoH should review policies and procedures of HCV infection prevention and control program
- Many factors have contributed to the remarkable decline in the HCV IR--most importantly, the marked development of the MOH's HCV prevention and control strategies and their adoption by health institutions in all parts of the Kingdom
- However, these prevention and control measures might not be being applied fully in many regions, possibly contributing to higher IRs (the high IR in Makkah over the 5 years, for example)
- These strategies need to be applied consistently

Recommendations

- Need a comprehensive evaluation of preventive measures and HCV control programs at all levels of healthcare in regions with high HCV rates
- New policies for HCV-positive non-Saudi population should not include deportation from the country. They should be given treatment so that they are motivated to be screened and change their behaviors around the disease
- Health education programs and campaigns should be established that target high-risk groups and focus on increasing awareness of transmission routes.
- Since Makkah had highest burden, we recommend that HCV be included as one of the diseases that foreigners must be screened for before entering to the Kingdom
- Finally, we suggest future studies for determining the risk factors for HCV based on different variables (different age groups, gender, and nationality) to detect the real burden of HCV

Figure 3. Incidence Rates^o of Reported Cases of Hepatitis C Virus Infection for Regions with a Lower IR than the Total Population for At Least 3 Years, Kingdom of Saudi Arabia, 2008 – 2012

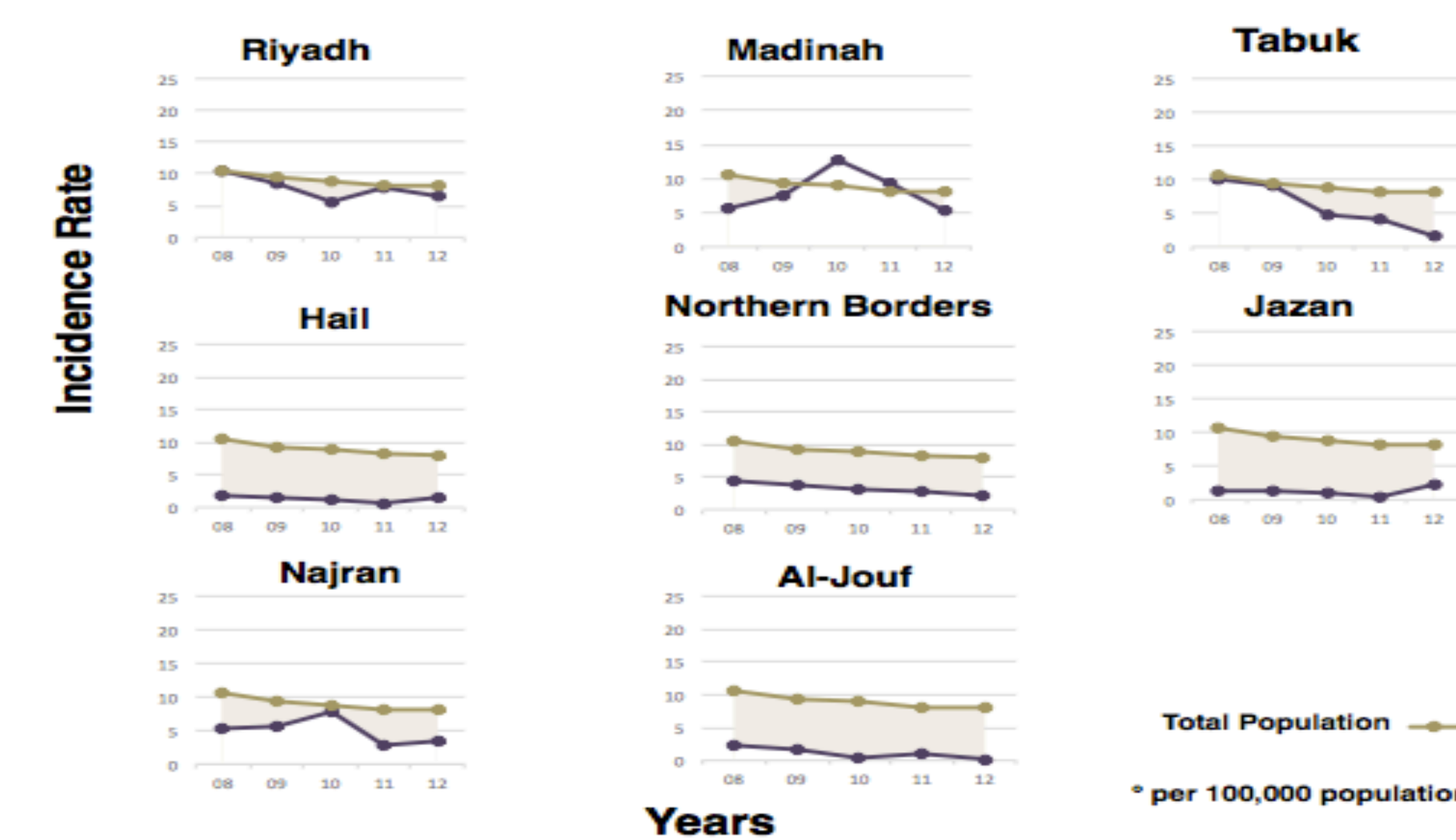
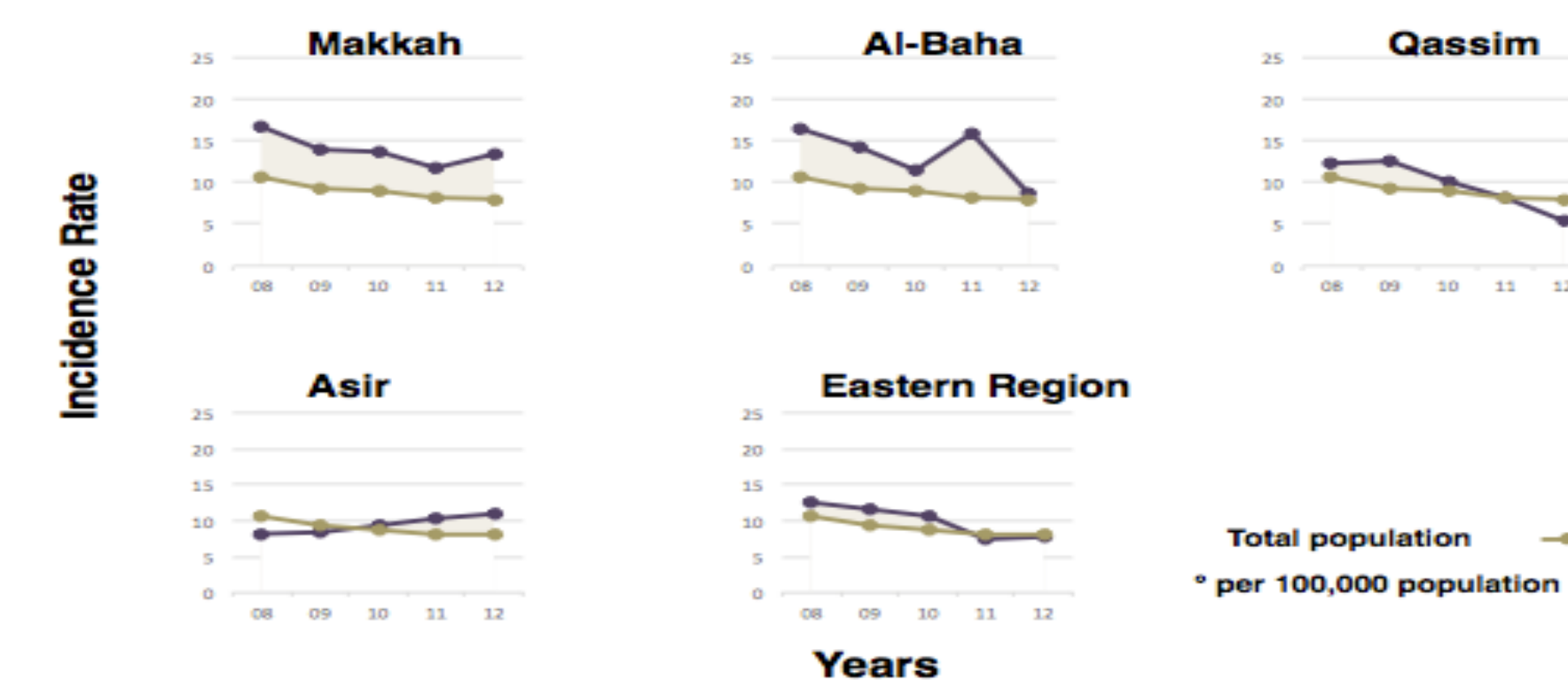


Figure 4. Incidence Rates^o of Reported Cases of Hepatitis C Virus Infection for Regions with a Higher IR than the Total Population for At Least 3 Years, Kingdom of Saudi Arabia, 2008 – 2012



- Those >45 years old had highest number of HCV cases

Figure 5. Number of Reported Cases of Hepatitis C Virus Infection, by Year and Age Group, Kingdom of Saudi Arabia, 2008 – 2012

