Chronic Hepatitis C in Brunei Darussalam: Towards the WHO hepatitis 2030 elimination goals

Abstract No: 79

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Background

- Chronic Hepatitis C (CHC) infection remains a worldwide public health problem.
- A modeling study estimates 0.5% of prevalence with CHC in Brunei Darussalam. However, the actual prevalence remains unknown.
- This study provides the true prevalence to gain an understanding of the disease burden of CHC in Brunei Darussalam. In addition, to assist us in evidence-based policy making in order to eliminate HCV.
- WHO launched a global campaign in 2016 for elimination of hepatitis by 2030 with aims to reduce new hepatitis infections by 90% and death by 65% by 2030.

Objective

To determine the trend of newly detected CHC infection in Brunei Darussalam over an eight-year period (2013-2021) and to predict the rate of decline by 2030.

Results

- 684 who tested positive for anti-HCV for various reasons (screening or evaluation) were identified and of these, 388 (56.7%) were viremic.
- There were significantly more patients with confirmed IVDA as a risk factors for CHC among viremic patients and no differences in gender and mean age at diagnosis. (Table 1)
- Overall, 71.9% had received treatment with treatment regime shifting towards DAAs in the latter part with a cure rate of >95%.
- The overall period prevalence of active infection was 10.06 cases per 100,000 population with an average annual decline of 8.9% with fluctuation (range -59.9% to 43.9%) in newly detected cases. (Table 2)
- Based on this estimate, the incidence of newly detected infection in 2030 is 2.57/100,000 (72.0% decline from 2016) and it will only be in 2042 that the goal will be achieved (0.86/100,000, 90.6% decline from 2016).

Table 1: Characteristics and comparisons between viremic and non viremic patients

	Overall (N = 684)	Viremic patients (n = 388)	Non viremic patients (n = 296)	P value
Mean age ± SD (years)	47.0 ± 12.1	47.1 ± 11.1	46.9 ± 13.4	0.809
Gender				
Male	571 (83.5)	318 (82.0)	253 (85.5)	0.220
Female	113 (16.5)	70 (18.0)	43 (14.5)	
Risk factors				
Intravenous drug use	219 (32.0)	160 (41.2)	58 (19.9)	<0.001 for trend
Dialysis	49 (7.2)	25 (6.4)	24 (8.1)	
Blood products	19 (2.8)	14 (3.6)	5 (1.7)	
Others/Unknown	397 (58.0)	189 (48.7)	208 (70.3)	

Method

- Patients who tested for hepatitis C serology between 2013 and 2021 were identified from the National Virology Laboratory.
- Duplicates (n=16) were excluded.
- Data was retrieved from the national electronic health record system.
- The study was approved by the Medical and Health Research Ethic Committee (MHREC), Ministry of Health.

Statistical analysis

- CHC patients demographic and characteristics were evaluated and presented in absolute number and percentages.
- Comparisons were made between viremic and non-viremic patients using Chi-squared test and Student t-test.
- The period prevalence and incidence from 2013 to 2021 were calculated and future incidence of new cases were estimated based on average annual percentage decline.

Table 2: Trend of annual newly detected Hepatitis C cases

Year	Cases/100,000	Percentage (%) decline from 2016
2013	17.25	
2014	11.52	
2015	9.96	
2016	9.16	
2017	7.90	5.7
2018	7.14	22.0
2019	11.41	-24.7
2020	10.41	-13.7
2021	5.84	36.2
2022	5.33	41.8
2023	4.86	46.9
2024	4.44	51.5
2025	4.05	55.8
2026	3.70	59.6
2027	3.37	63.1
2028	3.08	66.4
2029	2.81	69.3
2030	2.57	72.0
2031	2.34	74.4
2032	2.14	76.7
2033	1.95	78.7
2034	1.78	80.6
2035	1.62	82.3
2036	1.48	83.8
2037	1.35	85.2
2038	1.24	86.5
2039	1.13	87.7
2040	1.03	88.8
2041	0.94	89.7
2042	0.86	90.6
2043	0.78	91.5

The actual data
The projected data based on annual decline from the year before
WHO goal of Hepatitis elimination
90% reduction of new hepatitis infection

Conclusion

The incidence of newly detected hepatitis C infection Brunei Darussalam has continued to decline. However, the WHO goal will not be achieved based on the rate of projected decline.

Next Step

To establish a dedicated screening program for the high risk groups and a registry to detect and manage patients who are lost to follow up and in addition, to improve treatment coverage.

References

World Health Organization. (2016). *Global health sector strategy on viral hepatitis 2016-2021. Towards ending viral hepatitis* (No. WHO/HIV/2016.06). World Health Organization.

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