HEPATITIS C VIRUS INFECTION: BARRIERS TO TREATMENT

Queensland Government **Metro South Health**

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BACKGROUND

- The Southern Queensland Centre of Excellence (CoE) in Aboriginal and Torres Strait Islander Primary Health Care aims to provide quality and culturally safe primary health care to the Aboriginal and Torres Strait Islander community. Despite facilitating access to treatments for Hepatitis C Virus (HCV), few patients attending the CoE Liver Clinic had received treatment in 2014.
- The rate of newly-diagnosed HCV is increasing in Australia's Indigenous population (130 per 100000 Indigenous population in 2008 to 166 in 2012), while the rate is decreasing in the non-Indigenous population (51 per 100000 in 2008 to 40 in 2012)¹².

STUDY AIM

To identify factors, including personal and social aspects that were inhibitive in treating patients with HCV infection attending the CoE Primary Health Care clinic.

PATIENTS WITH HCV RNA PCR POSITIVE RESULTS

Sample

- 113 patients had HCV RNA PCR positive results (50% were genotype 3).
- 95/113 (84%) patients self-identified as having an Aboriginal and/or Torres Strait Islander background.
- Table 1 describes the socio-demographic characteristics of all patients.
- A separate analysis for patients from Aboriginal and Torres Strait Islander background showed either none, or a 1-2% percentage difference for most variables, except for the 50% (versus 46% for 'All' patients) living with other family members.
- Fig 1. describes details of referrals/treatment for patients in HCV negative and positive groups.

Possible barriers to accessing treatments

Patients with HCV infection suffered from other comorbidities; lifestyle-associated and domestic factors that could influence treatment decisions, Table 2.

METHODS

Steps of data collection:

- Electronic GP Clinic medical records software package, Practix, was searched to identify all patients with a diagnosis of Hepatitis C in November 2014.
- Retrospective audit of electronic medical records of patients who were HCV RNA PCR positive. Data extracted and simultaneously recorded electronically on a form developed in Microsoft Access software program for the following:
 - o Details of most recent HCV RNA PCR pathology test
 - o Socio-demographic characteristics
 - o Treatment details
 - o Presence of co-morbidities, lifestyle risk factors, liver disease.
- Study was approved by the Inala Community Jury for Aboriginal and Torres Strait Islander Health Research. Metro South Human Research Ethics Committee deemed this a quality assurance project.

Data analysis

STATA[©] version 14.1 was used for data analysis for all patients, then separately for Aboriginal and Torres Strait Islander patients.

RESULTS

219 patients had a diagnosis of Hepatitis Clisted in their medical records, 186 patients had HCV PCR testing, Fig 1.

Separate analysis of patients from Aboriginal and Torres Strait Islander background showed either none, or a 1-2% percentage difference for most variables, except for presence of: depression (60%), fatty liver (48%), conflict and domestic violence (35%).

Table 2: Patient-associated and other factors present among patients with HCV RNA PCR positive *

	HCV RNA PO	HCV RNA PCR positive	
	n	%	
Patient-associated factors			
1. Comorbidities			
Depression	71/99	72	
Anxiety	56/92	61	
Other current mental illness	28/92	30	
History of previous suicide/self harm attempt	15/65	23	
Fatty liver	18/32	56	
Cirrhosis of liver	7/33	21	
Primary carcinoma of liver	1/32	3	
Hypertension	10/90	11	
Diabetes	9/90	10	
Ischaemic Heart Disease	4/91	4	
2. Lifestyle-associated factors			
Current smoker	94/108	87	
Alcohol abuse	39/97	40	
Alcoholic Liver Disease	4/26	15	
Using an opiate	22/77	29	
On replacement opiate	19/82	23	
Current Intravenous Drug User	36/77	47	
Past Intravenous Drug User	89/93	96	
Body Mass Index (kg/m²)			
<18.5	1/89	1.0	
18.5 - 25 (normal healthy weight)	45/89	51	
>25	43/89	48	



Table 1: Socio-demographic characteristics of patients with HCV RNA PCR positive results*

Characteristic	HCV RNA PCR positive	
Age median (mean, ±SD, min-max), years	38 (39; 9.7, 7-63)	
Gender	<u>n</u>	%
Male	75/113	66
Ethnicity		
Aboriginal	90/113	79
Torres Strait Islander	2/113	2
Aboriginal & Torres Strait Islander	3/113	3
Non-Aboriginal/Torres Strait Islander	18/113	16
Regular Attendance at Clinic (≥ 3 visits in last two years)	69/113	61
Living Condition	1 10	
Homelessness or Overcrowding present	6/81	7
Living Arrangement	in the second second	
Living alone	4/54	7
Living with spouse, or spouse & children	15/54	28
Living with other family members including own children	25/54	46
Living with friends/shared accommodation, hostel, under care of Department of Children's Services	10/54	19

History of incarceration	72/105	69
Conflict and domestic violence	33/81	41
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*Data not available for all patients, analysis conducted with available data.

DISCUSSION

- This study has identified the vulnerability of this group of patients with HCV infection. Majority of patients experienced mental illnesses and incarceration. High proportions of patients experienced conflict and domestic violence, and lifestyle risk factors such as addiction to cigarettes, alcohol and intravenous drugs use.
- At least one-fifth of patients had a cirrhotic liver, highlighting the urgency of treatment to avoid long-term liver damage and its consequences on health status and quality of life.
- The high incarceration rate increases risk of HCV transmission, with unsafe injecting and tattooing practices in prisons occurring in a highly prevalent reservoir of infection.
- While newer medications have overcome many of the barriers associated with the previous drugs, successful treatment and avoidance of re-infection relies on many complex social and behavioural factors.
- Successful treatment of HCV requires a holistic patient-centered approach, utilizing other strengths such as connections to community, culture, and family dynamics in preventing intravenous drug use, and simultaneous treatment /prevention of broader issues of drug and alcohol addiction, mental illness, conflict and domestic violence, and incarceration³.
- Information on social determinants of health was not obtained in this study. The association between education, employment, mental illness, incarceration, exposure to trauma and abuse, domestic violence, and HCV needs to be explored to prevent HCV infections among this group of vulnerable Indigenous patients.

* Some data was missing for all variables for the 113 patients; analysis is conducted with available data.

REFERENCES

- Commonwealth of Australia, Department of the Prime Minister and Cabinet, Closing the Gap Prime Minister's Report 2016, http://closingthegap.dpmc.gov.au/assets/pdfs/closing_the_gap_report_2016.pdf Accessed 17/8/2016.
- Australian Government Department of Health. Fourth National Aboriginal & Torres Strait Islander blood-borne viruses and sexually transmissible infections strategy 2014-2017. Available at www.health.gov.au/internet/main/publishing.nsf/content/ohp-bbvs-atsi. Accessed 15/8/2016.
- Treloar C, Jackson C, Gray, R et al. (2016). Care and treatment of hepatitis c among Aboriginal people in New South Wales, Australia: implications for implementation of new treatments. Ethnicity & Health. 21 (1): 39-57.

CONCLUSIONS

- Management of HCV in this community-based clinic is made amidst complex personal and social environments.
- A high proportion of patients in this study experienced mental health conditions, conflict and domestic violence, and lifestyle risk factors. Many of these factors may pose barriers to treatment, even with newer HCV therapies.
- The study highlights the need to address the broader problems of addiction, for example trauma, to address substance abuse and associated risky behaviours, such as sharing of needles. • A holistic approach is essential for adequate treatment of HCV infection.

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