

No prejudice!

Being a prisoner, indigenous or having a psychiatric illness should not limit access to treatment for chronic hepatitis c infection.

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Disclosure of Interest

- ASHM Junior Research Support Award 2014.
- Nil other.

Why treat Chronic HCV infection?

- 170 million persons worldwide are infected with Hepatitis C Virus (HCV).¹
- Estimated 226700 people in Australia.²
 - Most common indication for liver transplantation in Australia.
 - 60% would benefit from current treatment.³
 - Overall rate of treatment uptake remains low (<2% per year).

1. Pearlman BL et al. 2011
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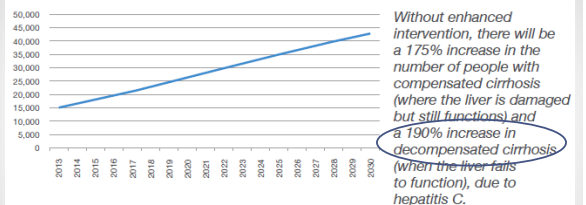
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Why treat Chronic HCV infection?

- Achieving a cure: defined as Sustained Virological Response (SVR) 24 weeks after completing therapy associated with₁:
 - Fewer liver-related complications.
 - Less Hepatocellular Carcinoma.
 - Fewer liver-related deaths.
 - Reduces risk of developing Diabetes.

1. Pearlman BL et al. 2011

Australians with cirrhosis due to hepatitis C₄



180% increase in all cirrhosis by 2030.

Combined, this is an increase of 180% from 15,000 people with cirrhosis in 2013 to more than 42,000 people with cirrhosis due to hepatitis C alone in 2030.

4. World Hepatitis Day 28 July 2014 Report: <http://www.liverdangerzone.com.au/>

The Setting



- Toowoomba
 - Population 162,057.
 - The largest regional centre in the Darling Downs, south-east rural Queensland.
 - Australia's second most populous inland city.⁵
- Toowoomba Hospital
 - 305 bed hospital.⁶

5. <http://www.abs.gov.au/AUSSTATS/abs@.nsl/DetailsPage/3218.02009-10?OpenDocument>
 6. <http://www.health.qld.gov.au/hospitalperformance/service-areas.aspx?hospital=104>

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Nurse-Led Hepatitis C service

- Summary of the services available on site at Kobi House;:
 - Free and confidential sexual health screening and assessments
 - HIV Rapid Testing
 - Management of STI's
 - Immunisations for at risk clients
 - Sexual assault service
 - Needle and syringe program
 - HIV management
 - **Hepatitis C assessment and referral**
 - HIV PEP (post exposure prophylaxis)
 - Pregnancy testing
 - Emergency contraception
 - Screening for sex industry workers
 - Contact tracing services
 - Indigenous health assessments
 - Tuberculosis screening and management
 - Refugee health assessments

7. <http://www.health.qld.gov.au/sexhealth/help/toowoomba.asp>

Chronic Hepatitis C patients

- Assessed for suitability for treatment by a Physician in either:
 - Kobi House clinic.
 - Local prison.
- Follow up:
 - Full time Hepatitis nurse (phone or face-to-face).
 - Treating physician if/when/where necessary (face-to-face, video-conference).
 - Mean/Median/Mode no. visits with a Physician was just 2.

Chronic Hepatitis C patients

- Wide-range of comorbidities.
 - Shared-care with GP.
 - Patients may utilise Kobi House Psychologist.
 - Referrals to other specialist services as required.
- Unsuccessful completion of treatment common (31.7%)
- Cure rates are highest when prescribed treatment course is completed.

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- What patient characteristics are known to impact on rates of successfully completing treatment?
- What patient characteristics are we seeing in Toowoomba and how do those factors impact on our successful treatment?
- Can management be optimised further to achieve more successful outcomes for patients with Chronic HCV?


Method

- Retrospective Cohort Study
- Inclusion criteria:
 - All patients (both prisoners and community based patients) who received any treatment for their HCV infection during a 3 year period (2010-2012).
- Mainly Standard therapy: Pegylated-interferon plus ribavirin:
 - Also 23 patients received Triple therapy (Standard therapy plus either Telaprevir or Boceprevir).
- Total 243 patients.

Method

- Data collected included:
 - Treatment setting (Community vs Prison)
 - Indigenous status
 - EtOH/Tobacco abuse
 - Mental illness details
 - Psychology Treatment
 - Diabetes status
 - Co-infections (Hep B, HIV)
 - Genotypes
 - Treatment Completion Outcomes
 - Treatment Outcomes (SVR? Nil SVR? Lost to Follow Up?)

The Ultimate Goal: Curing patients! How does Toowoomba measure up?

- ACHOS study (2012)⁸
 - Australian Chronic Hepatitis C Observational Study
 - 24 Clinics across 4 Australian states and the ACT.
 - April 2008 to December 2009.
 - Major metropolitan hospitals, regional, drug dependency and primary care clinics, and correctional centres.
 - Standard Therapy: Pegylated-interferon plus ribavirin treatment.
 - ACHOS overall **SVR was 59.5%** (327/550). 
- **Toowoomba's overall SVR rate of 60.1%** (110/183) is comparable to other Australian centres.

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8. Gidding, HF, et al. 2012

Characteristics of Patients treated for Chronic HCV who were available for follow-up (n = 183)		n (%)
Male		135 (73.8%)
Female		48 (26.2%)
Community-based		140 (76.1%)
Prisoners		44 (24.0%)
Indigenous		17 (9.3%)
Diabetes		6 (3.3%)
EIOH abuse (Current or Previous Hx)		93 (50.8%)
Smoker		123 (67.2%)
Current Mental Illness		78 (42.6%)
Seen by Psychologist		127 (69.4%)
Co-infected with HBV		1 (0.5%)
Co-infected with HIV		0 (0%)
Treatment Type		n (%)
Standard Therapy: Pegylated Interferon (alfa-2a or alfa-2b) plus Ribavirin		160 (87.4%)
Triple Therapy: Standard Therapy plus either Bocepravir or Telaprevir		23 (12.6%)
Genotype		n (%)
1		96 (52.5%)
2		7 (3.8%)
3		68 (37.2%)
6		2 (1.1%)
Mixed		8 (4.4%)
Unknown		2 (1.1%)
Treatment Outcomes		n (%)
Completed prescribed treatment		128 (69.9%)
SVR achieved		110 (60.1%)
Non-Responder		16 (8.7%)
Treatment discontinued by Doctor		26 (14.2%)
Treatment discontinued by Patient		28 (15.3%)

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ACHOS findings regarding SVR predictors:

- No association between SVR and:
 - Alcohol consumption.
 - Tobacco smoking.
 - History of Psychiatric Illness.
- No details of analysis about factors influencing treatment completion or being lost to follow-up.
- Systematic Review (Sublette V, et al 2013) examining psychological, lifestyle and social predictors of hepatitis c treatment response concluded that:
 - "Patients with psychiatric illnesses have comparable SVR rates to controls if they complete the therapy"

Treatment Completion

	ACHOS	Toowoomba
Completed Treatment	414/550 (75.3%)	128/183 (69.9%)
Non-Responders (Stopped Treatment)	55/550 (10.0%)	16/183 (8.7%)
Stopped by Treating Doctor for adverse event(s)	35/550 (6.4%)	10/183 (5.5%)
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- Decision PROBLEMS:
ACHOS' cohort **excluded** patients:
- Who had previously received treatment.
 - Who were lost to follow up.

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PROBLEMS:

ACHOS' cohort **excluded** patients:

1. Who had previously received treatment.
2. Who were lost to follow up.

ACHOS' cohort also **included** patients:

1. With 12 week SVR results, rather than 24 weeks.

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When looking at **treatment completion & lost to follow up** include data from all patients who received any treatment.

Aim of the Toowoomba analysis:

- Factors suspected to impact rates of successful treatment completion:
 1. Indigenous status.
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- Factors suspected to impact rates of successful treatment completion:
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 3. Mental Illness at time of treatment.
- Assess above factors' effect on:
 - Successfully completing treatment.
 - Whether they are lost to follow up.
 - Either during treatment period, or post-treatment period.

Method

- Patients who had their care transferred to another treatment centre (14 patients) were excluded.
- Total patients: 229
- Reference group:
 - 81 patients (35.4%) who were neither indigenous, mentally ill, or prisoners.
- Comparison groups:
 1. Indigenous patients (27 patients, 11.8%)
 2. Prisoners (63 patients, 27.5%)
 3. Current Mental Illness (99 patients, 43.2%)

Current Mental Illness (43.2% of all patients)

Diagnosis (n = 99)	n (%)
Depression	76 (76.8%)
Anxiety	31 (31.3%)
Bipolar Affective Disorder	1 (1.0%)
Schizophrenia	16 (16.1%)
Other	8 (8.1%)
Treatment for Mental Illness	n (%)
Pre-existing pharmacological treatment	58 (58.6%)
Pharmacological treatment started by treating physician	13 (13.1%)
Psychology (Kobi House)	80 (80.8%)
Pharmacological Treatment + Psychology	51 (51.5%)
Mental Health Admissions	n (%)
In preceding 12 months	6 (6.1%)
During treatment for Chronic HCV	3 (3.0%)

Current Mental Illness (43.2% of all patients)

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Depression	76 (76.8%)
Anxiety	31 (31.3%)
Bipolar Affective Disorder	1 (1.0%)
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Relationships between groups

	Indigenous	Prisoner	Current Mental Illness
Indigenous (n=27)	6 (22.2%)	13 (48.1%)	11 (40.7%)
Prisoner (n=63)	13 (20.6%)	33 (52.4%)	20 (31.7%)
Current Mental Illness (n=99)	11 (11.1%)	20 (20.2%)	71 (71.7%)

N.B.
Percentages given are according to their row.

Total no. patients (excluding patients transferred during care) with at least one suspected risk factor: 148 (64.6% of all patients).

There were 3 patients who had all three characteristics analysed above.

Completing Treatment

(Univariate Analysis)

	Odds Ratio	95% Conf. Interval	P score
Indigenous	0.727	0.275 - 1.925	0.522
Prisoner	0.612	0.294 - 1.276	0.191
Current Mental Illness	0.585	0.302 - 1.134	0.113

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Completing Treatment

(Multivariate Analysis)

	Odds Ratio	95% Conf. Interval	P score
Indigenous	1.158	0.475 - 2.821	0.747
Prisoner	0.865	0.459 - 1.632	0.656
Current Mental Illness	0.805	0.457 - 1.418	0.454
	Odds Ratio	95% Conf. Interval	P score
Indigenous	1.135	0.465 - 2.772	0.780
Prisoner	0.928	0.492 - 1.750	0.818
Current Mental Illness (Tx with Pharmacology + Psychology)	1.291	0.643 - 2.594	0.472

Being lost to follow-up

	Odds Ratio	95% Conf. Interval	P score
Indigenous	2.343	0.970 - 5.659	0.058
Prisoner	2.095	1.034 - 4.241	0.040
Current Mental Illness	1.290	0.656 - 2.536	0.459

Prisoners over TWICE the risk of being lost to follow-up.

Indigenous patients at similar risk of being lost to follow-up.

Discussion (continued)

- Larger number of subjects required in future studies.
- The emerging therapies to treat Chronic HCV appear to be more efficacious and with less side-effects, however it is uncertain in Australia when Standard Therapy (Pegylated IFN + Ribavirin) will no longer be used.

Conclusion

- No statistically significant evidence from our data that being either indigenous, a prisoner, or having a current mental illness is an independent risk factor for unsuccessfully completing treatment.
- Evidence that being either Indigenous or being a Prisoner at least doubles the risk of being lost to follow-up either during their treatment period or following their treatment course (prior to SVR24 bloods).

References

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Thankyou