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Telemedicine-based Hepatitis C Virus (HCV) Management for Individuals on Opioid Agonist Treatment (OAT)

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Background

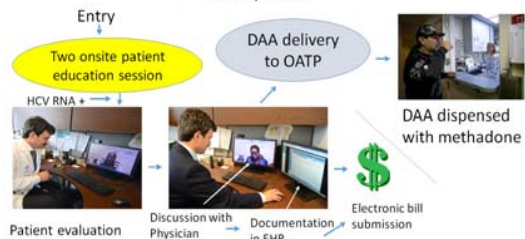
- Despite the highest HCV prevalence and incidence, linkage-to-HCV care for persons with substance use disorders has been difficult.
- Integrated, co-located care for substance use disorders and co-occurring conditions (i.e. HCV and HIV) has been shown to be effective, but has been difficult to implement in the United States.
- Virtual integration to link specialists and patients, each physically separated, is a potential mechanism to integrate behavioral and medical treatments.

Objectives

- To assess efficacy and motivators of engagement in virtually integrated HCV treatment among substance users.
- To assess patient satisfaction with specialty care delivered via telemedicine.

Materials & Methods

Study Flow



- All individuals 18 years or older with detectable HCV RNA on OAT were potentially eligible.
- All participants initially underwent HCV education prior to telemedicine-based HCV evaluation.
- Blood was obtained onsite for all required evaluations (i.e. HCV RNA, HCV genotype, and histologic assessments).
- Patients were evaluated biweekly during HCV treatment.
- Validated instruments (TSQ) were administered at initial evaluation, at treatment initiation, and at end of follow-up.

Demographics

Variable	Level	Size	Mean/Count	SD/%
Age		62	57.5	9.9
Gender	Female	24		38.7
	Male	38		61.3
Race	AA	38		61.3
	Others	24		38.7
Ethnicity	Hispanic	16		25.8
	Non-hispanic	46		74.2
HIV	Negative	47		75.8
	Positive	15		24.2
Fibrosis stage	F0 to F2	38		65.5
	F3 to F4	20		34.5

Social Variables

Variable	Level	Size	Count	%
Marital status	Divorced/separated/widowed	20		32.8
	Married	61	16	26.2
	Never married	25		41.0
Employment	Employed	4		6.5
	Unemployed and disabled	33		53.2
	Unemployed and not disabled	25		40.3
Education	GED or above	36		58.1
	No GED/some HS	26		41.9
Living situation	Homeless/shelter	16		25.8
	Living alone	22		35.5
	Living with someone	24		38.7
History of IVDU	No	23		37.1
	Yes	39		62.9
Two illicit drugs	Cocaine	39		62.9
	No or other drugs	23		37.1
Three illicit drugs	No	38		61.3
	Yes	24		38.7
Psychiatric diagnosis	Depression	16		25.8
	No	62		100.0
	Others	13		21.0

Abbreviations: DAA, direct acting antiviral; EHR, electronic health record; TSQ, telemedicine satisfaction questionnaire; SD, standard deviation; AA, African American; GED, general equivalency diploma; HS, high school; IVDU, intravenous drug use; OR, odds ratio.

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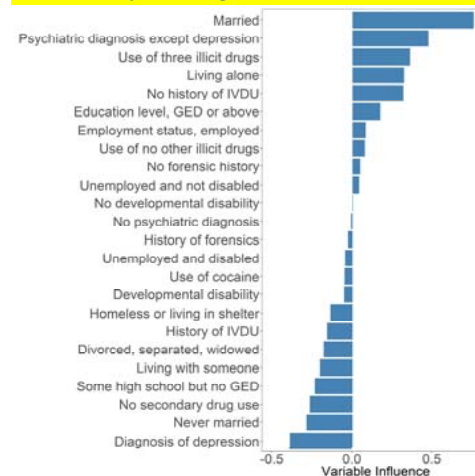
Efficacy Summary

- 62 patients were evaluated and 45 (73%) received HCV treatment.
- 42 (93.3%) achieved sustained virological response
 - 2 patients were likely re-infected (negative HCV RNA between post-treatment weeks 2 and 4 and positive at post-treatment week ≥ 12).
 - 1 patient relapsed after DAA discontinuation at treatment week 4.
- 17 patients were evaluated but untreated due to program discontinuation (n=3), adherence issues (n=4), and insurance issues (n=10).

Treatment Motivation

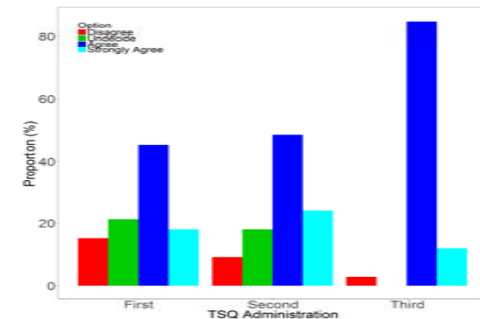
- To identify motivators of treatment engagement, multiple correspondence analysis and logistic regression with Lasso were applied to social variables.
- 11th principal dimension of social variables associated with treatment engagement (OR=22.5, P=0.0495).
- Interactions between social and medical variables presently under analysis.

Directionality and Strength of Social Variable Influence

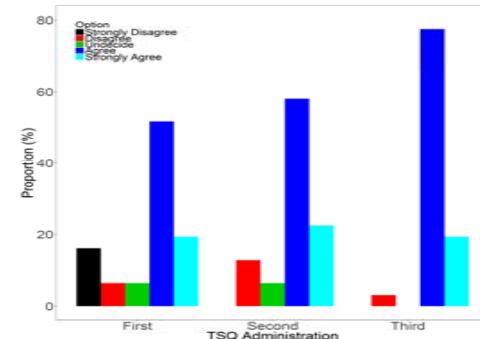


Telemedicine Satisfaction

Telemedicine Preference Compared to Off-site Referral



Absence of Privacy Concerns over Computer



Conclusions

- Telemedicine-based HCV care is a feasible, reimbursable method for HCV treatment delivery to OAT patients.
- Marriage and absence of depression were the strongest predictors of treatment engagement.
- Telemedicine-based treatment approaches are preferred by OAT patients compared to offsite referral with privacy issues mitigated over time.