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Assessment of methadone clinic staff attitudes toward hepatitis C evaluation and treatment

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Abstract

We used a 25-item, self-administered questionnaire to assess staff's perceived barriers and willingness to engage in onsite treatment of hepatitis C virus (HCV) at the Beth Israel Medical Center methadone maintenance treatment program (MMTP) at its Harlem sites. Of 80 participants, 50% were counselors and 24% were directly involved in referral or HCV testing. Although 92% of the MMTP staff indicated that they discuss HCV evaluation and treatment with patients at least annually, 70% believed that less than 25% of patients accept referral for HCV treatment and attend their initial appointment. Most staff (66%) supported onsite HCV evaluation and treatment, although support was higher among those with a bachelor's degree or higher (p=0.046). Lack of infrastructure was perceived as the greatest obstacle to onsite treatment. Educational interventions and skill building for staff to confidently engage and support MMTP patients in HCV treatment may be necessary prerequisites for onsite HCV management in MMTPs.

Keywords

Drug treatment; Hepatitis C virus treatment; Interferon; Methadone maintenance; Opiate; substitution therapy

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1. Introduction

1.1. Reasons for limited hepatitis C virus treatment uptake among methadone maintained patients

Hepatitis C virus (HCV) infection is a leading cause of chronic liver disease with an estimated global prevalence of more than 170 million and up to 5 million infected individuals in the United States (El-Serag, Lok, & Thomas, 2010; World Health Organization, 2002). Of those who are exposed to the virus, the majority (50%–80%) will develop chronic infection that can result in fibrosis, cirrhosis, and hepatocellular carcinoma. Currently, injection drug use is the leading risk factor for HCV acquisition, and HCV seroprevalence ranges from 60% to >90% among long term injection drug users (IDUs) (Hagan et al., 1999; Lorvick, Kral, Seal, Gee, & Edlin, 2001; Mehta et al., 2008; Thomas et al., 1995; Tseng et al., 2007). Although drug users represent the majority of the HCV disease burden in developed countries, HCV treatment uptake among these individuals remains low (Grebely et al., 2008; Mehta et al., 2008; Stephenson, 2001). Currently, HCV evaluation among IDUs ranges from 21% to 65% with less than 20% of evaluated patients receiving treatment (Grebely et al., 2008; Mehta et al., 2008; Schackman, Teixeira, & Beeder, 2007). Challenges to full implementation of HCV treatment among IDUs exist on multiple levels (Morrill, Shrestha, & Grant, 2005), including limited HCV-related knowledge among both drug users and drug treatment staff (Munoz-Plaza et al., 2008; Strauss et al., 2006, 2007a).

As HCV prevalence and incidence are highest among drug users, integration of HCV management into drug treatment, particularly methadone maintenance treatment programs (MMTPs), may be an effective strategy by which to engage disenfranchised populations into clinical care for HCV and to reduce viral transmission. Staff employed within the MMTP is crucial for successful integration of HCV care into these facilities and has the potential to be important conduits for knowledge dissemination about HCV. These individuals are also important for patient engagement into clinical evaluation and treatment of the infection.

While patient-centered barriers and facilitators to engagement of drug users in HCV management have been studied in detail, few data exist addressing MMTP staff attitudes toward, involvement in, and comfort with participating in HCV management services (Bini et al., 2011; Brown et al., 2009). However, previous work conducted in a large national study has shown that health care provider's volition plays a significant role in the pursuit of infectious disease treatment among patients in drug treatment programs (Tracy et al., 2009). Our objective was to assess MMTP staffs' current practices regarding HCV testing and management, what staff perceives to be obstacles to MMTP patients accepting an HCV evaluation and treatment, staffs' willingness to engage and to support patients in the onsite treatment of HCV, and their level of comfort in disseminating knowledge about HCV to MMTP patients. To assess these parameters, we designed and administered a survey to MMTP staff at the largest hospital-based MMTP in the United States.

2. Materials and methods

2.1. Description of MMTP program

The Beth Israel Medical Center (BIMC) MMTP clinics are primarily located in medically under-served regions of the New York City boroughs of Manhattan and Brooklyn. The BIMC's 18 MMTP clinics constitute the largest hospital-based methadone maintenance treatment system in the United States treating approximately 8,000 unduplicated opioid-dependent individuals annually with an active census of 6,500 patients. The recruitment site for this study was a cluster of eight clinics located in Central Harlem of which 70% of the patients are male, 52% Hispanic, 35% African-American, and 13% Caucasian. In terms of ages, 29% of the patients are aged 45 years or less, 39% are aged 46–55 years, and 32% are older than 56 years. Almost 60% of MMTP patients are HCV seropositive (Seewald et al., 2010). These clinics were specifically targeted for inclusion in this study as they had not participated in any educational or treatment programs devoted to viral hepatitis. Other clinics in the program have participated in interventions to increase patients' pursuit of evaluation or vaccination for viral hepatitis.

In the eight sites that were surveyed, onsite management of HCV consisted of screening for hepatitis upon admission, delivery of medical test results by the medical staff, and a referral for offsite evaluation and treatment to a BIMC hepatology practice located 5 miles (four subway stops) from the MMTP or to providers of their choice. Staff educational programs for HCV were provided as part of new staff orientation and annually to all clinical providers as recommended by accreditation bodies (The Joint Commission).

2.2. Survey instrument

A 25-item self-administered questionnaire was developed by experts in the fields of hepatology, infectious diseases, addiction medicine, psychiatry, and epidemiology. The instrument was distributed to MMTP staff during staff meetings, prior to annual HCV training sessions, and was collected anonymously at the meetings' conclusion. Participation was entirely voluntary and staff helped develop and approved the instrument's content and distribution. The study was conducted consistent with a protocol approved by the BIMC institutional review board.

The survey assessed information encompassed in three domains: HCV management (Section 1), staff comfort with HCV treatment (Section 2) and demographic information (Section 3). Section 1 included questions about HCV awareness among patients, the number and circumstances when patients are referred for counseling and testing, and reasons why and frequency of missed appointments. Section 2 included questions regarding the feasibility, readiness to participate, and factors that might promote an onsite HCV treatment program. Section 3 requested information about respondent's personal (e.g., age, gender, race, ethnicity) and professional characteristics (e.g., position within MMTP, level of education).

2.3. Data analysis

A total of 88 questionnaires were returned; eight were excluded as two contained no responses and six were obtained from individuals who were not involved in patient care.

Consequently, 80 evaluable questionnaires (66%) were obtained from the 120 personnel with direct patient contact. Most of the physicians and counselors (6 of 7 [86%] and 40 out of 60 [67%], respectively) completed the questionnaire, followed by nurses (17 of 35 [49%]), physician assistants (3 of 7 [43%]), clinic managers (2 of 7 [29%]), and social workers (1 of 4 [25%]). Complete responses were obtained from 40 individuals. The survey was considered fully complete if responses were obtained to all questions. A section was considered partially complete if a response to at least one question was obtained. Section 1 was fully completed by 66% (*n*=53) of the participants, Section 2 by 80% (*n*=64), and Section 3 by 78% (*n*=62).

Response frequencies were calculated for the different items on the questionnaire. Fisher's exact and Cochran–Armitage trend tests were used to assess associations among the questionnaire items.

3. Results

3.1. Respondents demographics and position in MMTP

Among the respondents, most were 46 years or older (6 [7%] were 18–35, 12 [15%] were 36–45, 54 [68%] were >46, and 8 [10%] did not provide responses to the question). Sixty-five percent of respondents (*n*=52) were female. In terms of race, 41% (*n*=33) were African-American, 15% (*n*=12) were Caucasian, 4% (*n*=3) were Asian, 23% (*n*=18) were of other race and 18% (*n*=14) did not provide race information. A total of 68% (*n*=54) identified themselves as non-Hispanic. In terms of education, 39% (*n*=31) of the respondents had a bachelor's degree, 29% (*n*=23) had a master's or doctoral degree (MD, DO, or PhD), and 23% (*n*=18) had high school or associate degree. One half (*n*=40) of respondents were counselors, 21% (*n*=17) were nurses, and 12% (*n*=9) had advanced medical training (physician or physician assistant). Of the total sample, 24% (*n*=19) responded on the questionnaire that they were directly involved in either referring or testing patients for HCV.

3.2. Attitudes toward HCV management

Although the vast majority of MMTP staff indicated that they discuss HCV evaluation and treatment with clinic patients, the widely held perception was that very few patients adhere to the medical advice provided. Of the respondents, 65 of 71 (92%) indicated that they discuss at least one HCV-related topic with MMTP patients a minimum of once a year. About half of respondents indicated that they discuss HCV on admission to the MMTP and one third, respectively, indicated that they discuss the infection during monthly counseling sessions or when developing an individualized treatment plan.

To ascertain whether staff perceives that patients adhere to requests for evaluation and treatment, we asked: “Approximately what percentage of patients accepts a referral for HCV evaluation to assess if disease is chronic and to explore treatment options?” and “Approximately what percentage of patients appears for their first appointment for evaluation?” The vast majority of MMTP staff discusses referral for an HCV evaluation or treatment (30 of 34 [88%] and 46 of 62 [74%], respectively) with HCV seropositive patients at least annually. Of 27 staff who discusses HCV evaluation at least annually, 11 (41%) indicated that less than 25% of the patients accept referral and 14 (52%) indicated that less

than 25% of the patients actually appear for their initial evaluation. Of 44 staff who discusses HCV treatment at least annually, 27 indicated that less than 25% (61%) of the patients accept referral for treatment. Fear of side effects of HCV treatment and the prolonged asymptomatic period of the infection were the two most common reasons staff cited to explain participants' declining an HCV evaluation or treatment or failure to appear for an HCV evaluation (Table 1).

3.3. Staff comfort with HCV evaluation and treatment onsite in the MMTP

We assessed MMTP staff's endorsement of onsite HCV management as an alternative to offsite referral. A majority of the MMTP staff (66%, *n*=53) endorsed both onsite HCV evaluation and treatment, while 19% (*n*=15) were unsure, and only 5% (*n*=4) responded that both HCV evaluation and treatment should be offered only offsite. Individuals with at least a bachelor's degree were more likely to endorse onsite HCV evaluation and/or treatment (odds ratio: 3.58, 95% confidence interval [1.1, 12.0], *p*=0.046).

Despite the endorsement of the concept of onsite HCV management, only one-third of respondents felt that they presently possess adequate time and skills to treat HCV onsite. Among counselors, 42% (*n*=11 of 26) of the women thought that they could adequately support, in terms of time and skills, patients on HCV treatment as part of their job responsibilities versus 9% (*n*=1 of 11) of the male counselors (*p*=0.08). Individuals with nursing training (nurses, nurse practitioners, and physician assistants) were significantly more likely to believe that they were currently able to support patients on HCV therapy than did counselors (72%, *n*=13 of 18 versus 38%, *n*=9 of 24, *p*=0.033).

3.4. Obstacles to the implementation of onsite HCV care in the MMTP

In an effort to understand the barriers to implementation of onsite HCV management, we asked respondents for specific information and suggestions concerning potential obstacles and remedies to facilitate onsite HCV management. Respondents indicated that a lack of infrastructure needed to support HCV treatment and patients' reluctance to participate in it were the two most frequently cited impediments to pursuing onsite treatment (cited by 45%, *n*=32 of 71 and 44%, *n*=31 of 71 of respondents respectively out of the subjects who gave a response to this question) (Table 2A). Education about treatment efficacy and side effects as well as patient education materials were cited as requirements for being able to support patients through treatment among those who felt that they lacked the relevant skills (cited by 53%, *n*=26 of 49 and 49%, *n*=24 of 49 of respondents respectively) (Table 2B).

4. Discussion

4.1. Summary of key findings

In this study we assessed staff attitudes toward onsite HCV management at a large MMTP that presently refers patients offsite for HCV care. We found that most staff perceived that very few MMTP patients adhere to recommendations to pursue HCV evaluation or treatment when referred to an offsite location, consistent with prior investigation (Grebely et al., 2008; Mehta et al., 2008; Strathdee et al., 2005). Most staff supported onsite HCV management within the MMTP. Patient education materials and staff education, particularly

for those without medical training, were cited as the prerequisites to enhance the likelihood of success of onsite HCV care. Our results are in agreement with prior qualitative assessments that also reported willingness of drug treatment staff to participate in HCV treatment provided that they receive appropriate training and support (Munoz-Plaza, Strauss, Astone-Twerwll, Des Jarlais, & Hagan, 2006; Treloar, Newland, Rance, & Hopwood, 2010).

Initial approval of direct acting antivirals for HCV infection that have enhanced HCV treatment efficacy in HCV genotype 1 infection has motivated renewed interest in treatment of disenfranchised populations that may not have had exposure to HCV management services. Patients enrolled in opiate agonist treatment programs are in urgent need of HCV care. HCV seroprevalence typically ranges from 60% to 90% and many of these programs do not offer HCV management services. In addition, many patients on opiate agonists have advanced hepatic fibrosis (83% in our recent study) (Martinez et al., 2012), and they will likely be principal contributors to the projected tripling in the number of cirrhotic individuals in the United States between 2010 and 2020 (Davis, Alter, El-Serag, Poynard, & Jennings, 2010). Many of these patients are also either misinformed or poorly informed about the manifestations of HCV as well as the efficacy and side effects associated with HCV treatment (Strauss et al., 2007a). They also have a distrust of venues that offer conventional medical care. Consequently, less than 25% of drug users will pursue an HCV consultation when referred to an offsite health care venue (Grebely et al., 2008; Mehta et al., 2008; Strathdee et al., 2005).

Onsite HCV treatment enables patients on opiate agonist therapy to obtain HCV treatment in a convenient, nonjudgmental environment that should facilitate adherence with the treatment regimen. Staff working within the MMTP may be crucial as conduits for information dissemination and patient engagement (Strauss et al., 2007b). Thus, staffs' attitudes toward onsite HCV treatment and interventions to promote onsite HCV management in drug treatment facilities are the most important aspects of this work. In order to increase staff awareness of and comfort with HCV, the information contained within this manuscript can be used to appropriately design educational interventions.

Based upon our findings, educational interventions should be tailored to the intended audiences' level of medical training and position in the MMTP. HCV education can be delivered in drug treatment programs by viral hepatitis experts through educational interventions targeted to the education level of the MMTP staff. For example, basic HCV education could cover viral transmission and basic HCV pathogenesis; intermediate levels, components of an HCV evaluation; and advanced levels, treatment of the infection and side effect symptom recognition. Similarly, staff position could also be considered in the design of interventions; those involved with patient assessment at the time of intake might emphasize side effect recognition while those with prescribing privileges should likely receive training on side effect management. We observed a trend that more female counselors than male counselors were comfortable managing HCV infection. Further research should confirm whether gender differences exist in the level of comfort in offering management services for HCV. The finding that those with at least a bachelor's degree were more likely to endorse onsite training suggests that those without a bachelor's degree are more in need of HCV education.

Treatment of MMTP patients for HCV is extremely important given the high prevalence of the infection and the aging of this population with increasing morbidity from HCV (Martinez et al., 2012). Recent data suggest that approximately half of HCV-infected individuals in the United States are unaware of their diagnosis (Volk, Tocco, Saini, & Lok, 2009). While annual serologic screening for HCV is recommended in drug treatment programs, the majority of programs in the United States do not offer HCV testing (Strauss, Falkin, Vassilev, Des Jarlais, & Astone, 2002). From the treatment perspective, recently completed clinical trials have demonstrated remarkable improvements in treatment efficacy for novel direct acting HCV antivirals (Jacobson et al., 2011; Poordad et al., 2011). However, the effectiveness of these agents in clinical practice may not achieve the efficacy found in clinical trials unless strategies are pursued to increase access to care among disenfranchised populations, and unless health care providers are able to successfully encourage patients to initiate therapy and to support them during treatment (El-Serag et al., 2010). The success of these interventions is dependent upon improving provider understanding of current and evolving management approaches for the infection.

4.2. Study limitations

Limitations of this study include the fact that not all MMTP staff participated in the survey and that completion of the entire survey by those who did participate was not universal. As the principal long term objective of this work is to provide onsite treatment for HCV, we believe that the section that assessed whether MMTP staff was comfortable in offering onsite HCV management was the most important. This section was completed entirely by 80% of the participants. In addition, staff reported their perceptions regarding patients' reasons for declining HCV evaluation and treatment rather than actual observational data of patient behavior, which is another limitation of the study. To minimize the potential bias with administration of the survey during staff meetings, all questionnaires were collected anonymously. We also did not inquire as to the staff's personal history of HCV infection, which might have biased their responses.

4.3. Conclusions

In conclusion, the results reported here suggest that the MMTP staff is supportive of onsite treatment for HCV. More importantly, our results suggest that educational interventions are an important step for MMTP staff to build skills necessary to engage and support their patients in HCV treatment. These interventions are likely to be critical for integration of HCV care into drug rehabilitation venues.

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Table 1

Percentage of staff who indicated specific reasons why MMTP patients decline an evaluation or treatment for HCV infection or fail to appear for an HCV evaluation.

Reasons for declining HCV evaluation/treatment or for failing to appear for evaluation	**Staff perception of reason for declining HCV evaluation (*n*=70) % (*n*)**	**Staff perception of reason for failure to appear for evaluation (*n*=67) % (*n*)**
Do not believe that treatment works	21.4 (15)	25.4 (17)
No access to HCV treatment provider	21.4 (15)	12.0 (8)
Afraid of side effects	64.3 (45)	49.3 (33)
Do not like medical treatment	24.2 (17)	34.3 (23)
No insurance	30.0 (21)	26.9 (18)
Do not feel sick	47.1 (33)	40.3 (27)
Concerns about stigma	7.1 (5)	6.0 (4)
No car fare	24.3 (17)	28.5 (19)
Distance to medical care	15.7 (11)	14.9 (10)
Not enough time	10.0 (7)	9.0 (6)
Other	10.0 (7)	3.0 (2)

Table 2A

Percentage of staff that identified factors as potential obstacles to offering onsite HCV treatment.

Potential Issues for onsite HCV treatment	**Staff responses (*n*=71) % (*n*)**
Detracts from the primary mission of the MMTP	15.5 (11)
No infrastructure for onsite HCV treatment	45.1 (32)
Patients might not want onsite treatment	43.7 (31)
Other	15.5 (11)

Table 2B

Percentage of staff that identified specific skills needed to support a patient through HCV treatment.

Remedies to onsite HCV management	**Staff responses (*n*=49) % (*n*)**
More training about HCV treatment	53.1 (26)
More support by physicians	22.5 (11)
More support by nurses	20.4 (10)
Information about insurance coverage of treatment	24.5 (12)
More patient education materials	49.0 (24)
Other	28.6 (14)