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## RESEARCH ARTICLE

# The Role of Physicians' Attitudes and the Provision of Hepatitis C Virus Treatment to People Who Inject Drugs

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**Abstract:** Inadequate hepatitis C virus (HCV) assessment and treatment among people who inject drugs (PWID) is a result of patient, provider and health system level barriers. Low HCV treatment rates continue even though guidelines have been revised to consider HCV treatment among PWID on a case-by-case basis. If accessibility to HCV treatment were increased, especially to PWID this would greatly decrease the pool of communicable disease. In order to successfully control and prevent HCV infection PWID must be actively engaged in the treatment process. Physicians' attitudes towards HCV treatment can be represented in studies as views that are directly perceived by the physician or indirectly as perceived by the patient who is under the care of the physician. The current review focuses on examining both the indirect and direct views of physician's attitudes in treating HCV-infected PWID and examines how this influences and impacts provision of HCV treatment. A review of the literature suggests that physician's have varied attitudes towards their patients who use recreational drugs and who are HCV positive. Moreover it is the negative associations between HCV and drug use that can impact HCV treatment accessibility and affect the number of people who can actively begin treatment.

**Keywords:** Attitudes, Care, Drug user, Hepatitis C virus, People who inject drugs, Physicians, Treatment.

## INTRODUCTION

Globally, 130-150 million people are estimated to live with chronic HCV [1]. HCV is most commonly transmitted through injection drug use and the sharing of injection equipment [1]. HCV antibody prevalence in people who inject drugs (PWID) is high and can range from 40-80% [2]. Pharmacologic therapies for HCV are able to provide a sustained virologic response (SVR) of 50-85% depending on the specific genotype [3]. Access and uptake of HCV treatment among PWID remains low [4, 5]. This is despite the fact that studies show that PWID are interested in commencing HCV treatment [6, 7] and have undergone treatment successfully [8 - 14]. If accessibility to HCV treatment were increased, especially to current PWID then this would greatly decrease the pool of communicable disease [15].

These low HCV treatment rates continue even though guidelines have been revised to consider HCV treatment among PWID on a case-by-case basis [16 - 19]. As a result of these conflicting notions, the burden of advanced HCV-related liver disease continues to grow in the group of people who at greatest risk of infection [20, 21]. Consequently, in order to successfully control and prevent HCV infection PWID must be actively engaged in the treatment process.

Barriers to accessing and providing HCV treatment have been examined at a healthcare system level, provider level, and patient-level [22 - 30]. This review article gives an overview that focuses on barriers to HCV-related therapy at the provider level (specifically physicians although there are other healthcare disciplines or professionals involved in treatment of HCV). This is accomplished by summarizing the attitudes of physicians who provide treatment for HCV-infected PWID and examining how this influences and impacts provision of HCV therapy.

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## BARRIERS TO HCV TREATMENT: DIFFERENT PERCEPTIONS

Uptake of HCV treatment remains low among PWID [4, 5]. It is understood that PWID represent the major at-risk group for HCV and therefore it is necessary to review any impediments to providing care in order to enhance HCV assessment and treatment. Physicians' attitudes towards HCV treatment can be represented in studies as views that are directly perceived by the physician or indirectly as perceived by the patient who is under the care of the physician. This review article will separate these two forms of perceptions to gain insight into the factors that influence a physician's likelihood to provide HCV treatment to PWID.

### Physician Attitudes and Perceptions

Barriers to providing HCV treatment to PWID from a provider level include, limited availability of specialists, lack of referral to specialists, and lack of knowledge and awareness of primary care providers [30]. To understand the source of these barriers it is important to address where they are coming from and if they are directly influenced by physician's attitudes to providing HCV treatment to PWID.

Many studies have shown that physicians are reluctant to provide HCV treatment to PWID due to apprehension about re-infection, adherence to treatment and medical comorbidities [29, 31 - 35]. Over 70% of clinicians treating HCV in the Czech Republic indicated that they preferred providing treatment to people who did not use recreational drugs as oppose to PWID [36]. Many clinicians in the United States have concerns that the use of recreational drugs is a greater threat to the patient's health than HCV infection and may not recommend antiviral therapy [35, 37, 38]. Furthermore, it has been reported that it is the perception that PWID do not adhere to treatment that creates a barrier for physicians in prescribing HCV treatment [31, 38].

Primary care providers have an essential role of identifying patients with HCV and referring them onto specialists for HCV treatment and follow-up [39, 40]. Referral to such specialists is vital for patients, in particular PWID, to access antiviral treatment. However, it was noted that HCV patients who were currently injecting drugs were less likely to receive HCV antiviral treatment even if they had been referred to a specialist clinic [40]. Current injection drug use was the greatest barrier to receiving HCV treatment as oppose to recreational drug use related HCV acquisition [40]. Referral rates are low even for people in a regular health care setting but especially if they are actively injecting drugs [5]. It has been reported that 50% of primary care physicians did not refer most of their HCV-infected patients for treatment to a specialist [32].

It is difficult to determine whether the low referral rates are directly related to the active drug use or if they are due to another factor such as a chaotic lifestyle that physicians assume will reduce the suitability of a referral [29, 35, 40, 41]. One study identified reasons why primary care physicians were not providing treatment to their HCV-infected patients. The most common reasons included past and present substance abuse, patient preference against being treated, and psychiatric and medical comorbidity [29].

In contrast to the above studies it has also been reported that primary care physician's who have one or more PWIDs in their practice are more likely to provide HCV care and that HCV provision was not associated with physician's attitudes regarding the care of PWIDs in their practice [42]. Another study indicated that health professionals reported no increase in treatment discontinuation in current PWIDs, however physicians indicated that it was important for their HCV infected patients to have careful pre-treatment assessments to ensure that they are appropriately prepared for treatment [43].

When broken down into specialties, a Canadian study revealed that only 20% of HCV specialists (infectious disease physicians, gastroenterologists and hepatologists) would consider therapy for PWID [34]. Comparatively, a UK study revealed that over 60% of specialists stated that the primary reason for treatment ineligibility was ongoing illicit drug use [44]. Moreover, a study from the US reported that only 9% of the surveyed addiction specialists would directly treat a PWID who is infected with HCV and that only an additional third were willing to provide HCV antiviral therapy if they received the appropriate education and training [32]. In this same study, 39% of participants reported that they did not screen most PWID for HCV antibodies [32]. Reasons for not screening these patients were not indicated, however, it is estimated that up to 90% of PWID are infected with HCV and if these low screening practices continue then PWID will be unaware of their HCV-status [45].

The low HCV-treatment report rates from physicians are most likely driven by a myriad of barriers at the healthcare system level, provider level, as well as the individual patient level [24]. A number of the misconceptions regarding reasons for why a patient may be ineligible for treatment have been assessed and it should be noted that SVRs have

been achieved in PWID at similar rates to people who do not use recreational drugs [46, 47]. There is also compelling evidence that PEG-IFN/ribavirin is well tolerated among PWIDs [47]. HCV re-infection is often cited as a reason for withholding treatment to PWID. However, the evidence-based medicine on the risk of acute and chronic infection in previously HCV infected individuals is limited and consequently more longitudinal studies with larger cohorts and longer follow-ups need to be implemented in order to completely understand the dynamics of HCV transmission in this population [48]. In a Canadian study that surveyed family physicians on their knowledge, attitudes and behaviours associated with the provision of HCV care, over 63% of the physicians providing no ongoing HCV care believed that that providing HCV therapy was not part of their practice [42]. Moreover, it was shown that if physician's had a positive attitude about their role in HCV care then they would correspondingly provided HCV treatment in their practice [42].

Health professionals with a more tolerant attitude towards PWIDs were more likely to provide HCV treatment [49]. It has also been shown that a physician who has a positive attitude towards the impact of an HCV education class for their patients had higher rates of referral to such classes, which improved management of the HCV-infected patients in their practice [50].

In a study from a northern province of Iran, the knowledge levels and attitudes of health care professionals towards HCV infected patients was examined and of the health care groups surveyed, physicians reported having significantly more positive attitudes towards their HCV-infected patients than nurses and technicians [51]. In addition health professionals attitudes toward their HCV-infected patients depended on how their patients contracted the virus. Over 90% of health professionals felt compassion when HCV was acquired through a blood transfusion, compared with 55-63% when it was contracted through recreational drug use [49, 51].

Fear of contracting HCV has also been shown to affect the behaviour and attitude of health professionals. There was a greater willingness of health professionals to treat people with HCV if they felt safe in the clinical environment and followed the appropriate infection control guidelines [49]. However, some health professionals used additional precautions, including double gloving when in contact with people with HCV, which can be interpreted as showing a distrust of people with HCV [49].

Communication between health professions within the healthcare system can also influence the attitude of physicians providing care to HCV patients. The degree of stigmatization in an Emergency Department (ED) is influenced by how details about a patient's drug use and HCV status are communicated [52]. Patients are introduced to ED physicians using descriptors that did not have to do with their present condition but by using labels such as 'drug seeking' or 'violent' [52]. Such labels would then have a negative influence on the physician's attitude toward the patient and thus affect the care in which they provide to their patient.

### **Patient Perceptions of Physician Behavior**

The second part of this review will focus on physicians' attitudes towards HCV treatment and how they are indirectly perceived by the patient who is under the care of the physician.

Facilitators and barriers to the provision of HCV treatment to PWID have been examined. Barriers to providing HCV therapy are often relationship-related. Patients living with HCV have experienced discrimination by family members, and by members of the community at large, including health care workers [53]. Studies show that health care settings are the most common site where PWID with HCV experience discrimination [27, 54, 55]. Discriminatory practices and negative attitudes towards people infected with HCV can interfere with a physician's willingness to treat these patients. It has been observed that PWID are at an increased risk of being stigmatized by healthcare professionals who are not trained in addiction medicine [56, 57].

A physician's attitude is demonstrated to patients in the form of how they communicate and provide support. Certain patient characteristics have been identified as the cause of communication difficulty between physician and patient, such as substance abuse and emotional problems [58]. Patients with HCV are observed to have many of the traits of difficult patients [59].

Patients are conscious of both verbal and non-verbal forms of interaction with their physician. Consequently a physician's attitude can be reflected indirectly in the form of facial expressions, hand gestures, eye contact, tone of voice onto a patient as they interact fact-to-face. More than one-third of patients diagnosed with HCV have cited poor communication with their physician and this can be in the form of the perception of being treated unkindly, being rushed, not being listened to or being misunderstood [59]. HCV patients have also experienced negative stereotypes by

their physicians such as being considered sexually promiscuous or being a drug abuser [59]. Patients are often frustrated when physicians do not encourage them to initiate treatment and they feel as though this lack of support has more to do with their current or former drug use than with their positive HCV status [60]. Twenty percent of infected patients stated that their physicians did not understand how to handle their HCV condition [60]. Social stigma may be one significant factor that drives physician's lack of interest to provide HCV treatment and if patients continue to endure such negative experiences then HCV treatment rates will not improve.

Moreover, it has been observed in one study that 57% of patients experienced stigmatization attributable to their HCV infection and that these patients felt that their physicians viewed their HCV infection with suspicion and prejudice [61]. The high rates of stigmatization and HCV can cause individuals to hide their HCV positive status and thus further prevent individuals from seeking medical help.

Facilitators to providing HCV therapy to PWID involve having a health care provider who respects and communicates well with their patients during the HCV treatment process [62]. In addition, length of consultation at the time of HCV diagnosis was associated with patient satisfaction with regard to receiving the diagnosis because longer consultation allowed for more time for patients to ask questions, discuss the meaning of the positive HCV result and for health issues to be adequately addressed [40].

Motivation to begin HCV treatment was greatly influenced through interaction with an engaged clinician when social support structures and a manageable treatment plan were discussed [30]. When patients connect with a trusted physician they build a rapport that allows for the treatment to be initiated and followed through successfully [30]. Having more contact with a health care provider can alleviate fears regarding HCV treatment allowing more patients to initiate HCV therapy [5]. Moreover, HCV patients (who were current or former PWIDs) appreciated when physicians showed concern for their welfare as this encouraged a positive relationship that allowed for information to be easily transferred [27].

There are many barriers to starting HCV treatment. However, a trusting rapport between physicians and patients was noted to facilitate treatment. This was indicated by opiate substitution treatment clients who noted that a long-standing relationship with health professionals help facilitate treatment uptake because they had built such a strong bond with these health professionals [22].

The relationship between a PWID with an HCV positive status and their physician greatly influences the type of medical care that he or she will receive. Many of these individuals have experienced discrimination in the health care setting, which has interfered with initiating HCV therapy. In contrast, when PWID with HCV have a trusting rapport with their physician, this increases the chances that treatment will be started and followed through successfully.

## **LIMITATIONS**

One major limitation to this review article is that it only examines physician's attitudes to providing antiviral treatment to PWID. The provision of HCV treatment typically involves a multidisciplinary team that includes physicians, nurse practitioners, nurses, and physician assistants. A more comprehensive review would include the other team members in order to provide a more thorough understanding of how their attitudes affect HCV treatment.

## **CONCLUSION**

In order to increase HCV treatment rates it is important to understand what barriers can be modified. Barriers related to physician factors and their HCV-related practice patterns must be addressed so that strategies can be developed to overcome the HCV epidemic among PWID. The strategies can be commenced by creating a shift in the training provided to HCV specialists. This training would include a focus on addiction medicine and incorporate a more comprehensive knowledge base among primary care providers, which would require a greater focus of HCV education in undergraduate and postgraduate continuing medical education [63].

Misconceptions among physicians with regards to PWID and HCV treatment can also be addressed by close collaboration between health care providers from diverse specialties. This would include an integrated multidisciplinary team setting with providers from hepatology, addiction medicine, and mental health to improve treatment efficacy [64, 65]. Barriers to care can be broken down into subspecialty and it has been reported that subspecialties (hepatology, gastroenterology and infectious disease specialists) indicate fewer perceived barriers to providing HCV care than internists and general practitioners [66]. Consequently, a mentoring program involving HCV specialists and addictions specialists could also be created to increase the knowledge and skills necessary to treat this population [28].

The relationship between HCV and PWID is a confounding variable when trying to interpret physician's attitudes towards HCV [49]. A physician's willingness to provide treatment to a patient with HCV is influenced by their attitude towards PWID. This demonstrates a social prejudice that affects the treatment of HCV patients because physicians may wrongfully assume that they are PWIDs. It is thus the identity of the drug addict and not the positive HCV status that affects a physician's assessment as to whether or not a patient is worthy of HCV treatment. Discrimination against HCV patients has been observed in the healthcare setting [67] and if health care professionals hold assumptions and judgmental attitudes towards people with HCV then they may not provide optimal support, education and care to their patients.

It is important to note that many of the studies regarding physician's attitudes and the provision of HCV treatment to HCV positive PWID come from randomized, placebo controlled trials using clinical outcomes for interferon monotherapy [68]. Direct acting antivirals (DAA) such as telaprevir and boceprevir produce SVR rates of about 70% [69] compared to interferon monotherapy, which has a SVR rate of 50% [70]. Moreover, DAAs have fewer and less severe side effects [68], which could allow for more PWID who are infected with HCV to successfully start and finish their HCV therapy. However, the new drugs can still cause serious adverse events (resulting in persistent disability, hospital admission, or death) and some of the new drugs are still combined with interferon and ribavirin [68]. In order to assess current physician attitudes towards providing HCV treatment in the form of DAAs to PWID, these new drugs need to be evaluated by long-term follow-up of clinical outcomes in several thousands of patients.

This review acknowledges that physician's have varied attitudes towards their patients who use recreational drugs and who are HCV positive. The negative associations between HCV and drug use impact HCV treatment accessibility and affect the number of people who can actively begin treatment. It is therefore important to engage in active educational programs between health care professionals that can help modify these attitudes thus enabling more people to commence treatment in a non-judgmental and supportive environment.

## LIST OF ABBREVIATIONS

<b>DAA</b>	=	Direct acting antivirals
<b>ED</b>	=	Emergency department
<b>HCV</b>	=	Hepatitis C virus
<b>PWID</b>	=	People who inject drugs
<b>SVR</b>	=	Sustained virologic response

## CONFLICT OF INTEREST

The author confirms that this article content has no conflict of interest.

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