

Experiences of Oxford House Residents Living with the Hepatitis C Virus

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Abstract- Hepatitis C virus (HCV) is the most prevalent chronic blood-borne infection in the United States and the leading cause of chronic liver disease. HCV is transmitted through blood-to-blood contact. New infections remain common among IDUs, prisoners, and others likely to be exposed to infected blood. The purpose of this study was to use qualitative methods to gain insight into the experiences of HCV-infected residents, an approach that has proved informative in helping individuals manage similar challenging chronic illnesses. Semi-structured interviews were conducted with four Oxford House female residents living with HCV. The semi-structure qualitative interview consisted of 18 questions which were designed to focus on three broad areas: experiences of contracting and being diagnosed with HCV, ways in which HCV affected their lives, and experiences living in an Oxford House. Overall, participants were not surprised at their diagnosis, but it did impact their mood. Participants had difficulty with social functioning, experienced physical and psychological symptoms, and received a substantial amount of social support from family and Oxford House residents.

Keywords- HCV; Injection Drug Use; Women; Addiction; Recovery Homes

I. INTRODUCTION

Hepatitis C virus (HCV) is the most prevalent chronic blood-borne infection in the United States and the leading cause of chronic liver disease^[1-2]. An estimated 3.9 million Americans are infected with hepatitis C, with 170 million individuals affected worldwide^[3]. It results in cirrhosis of the liver in an estimated 20% of patients making HCV an important public health concern^[4].

HCV is transmitted through blood-to-blood contact. HCV is transmitted primarily through the skin, which can result from injection-drug use, needle-stick injuries, and inadequate infection control in some settings^[5-6]. Saliva, sweat and other bodily fluids are not infectious. You cannot get HCV from kissing, hugging or any other casual contact^[7]. While it is possible to get HCV through certain intimate acts, sexual transmission is rare^[8]. New infections remain common, though, among injection drug users (IDUs), prisoners, and others likely to be exposed to infected blood^[9-11].

Quality of life is often impacted for individuals living with HCV^[12-13]. Symptoms related to HCV include fatigue, abdominal pain, nausea, weight loss, and functional limitations^[12]. Anxiety and depression can also emerge after being diagnosed with HCV^[14].

Linkage to care and treatment is critical to improving health outcomes for persons found to be infected with HCV^[15]. Such linkage is particularly important in light of the major advancements that have been made in HCV treatments. For patients infected with HCV, treatment now consists of a long-acting interferon combined with oral doses of ribavirin, a regimen that has improved health outcomes for many infected persons^[16].

Studies suggest that being diagnosed with HCV produces distress^[17-19]. The ability to cope with HCV can further be compromised by discrimination. Research has found that over 50% of patients with HCV have experienced discrimination in a variety of contexts, resulting in alienation from others, at a time when they are in great need of support^[20].

Living with HCV often entails significant physical, cognitive, and emotional adjustments as well^[21]. Social support is critical for adjustment, but its receipt is complicated. Relationships may be strained by worries about sufferers' uncertain health; partners, family, and friends may withdraw out of fear of infection or distaste, and physical and cognitive impairments may limit social interaction^[22].

IDU is the primary driver for Hepatitis C virus (HCV) transmission, accounting for the majority of chronic HCV infections in the U.S.^[2, 9]. Across multiple U.S. studies, 35–65% of current IDUs report risky injection behaviors such as syringe/needle sharing^[7-8, 23-24].

There are many factors that expose individuals to HCV, such as the shared use of drug preparation and injection equipment^[25-26]. Therefore, there is a risk with all practices described as being non-safe. Most importantly, the common use of needles must be absolutely avoided. As HCV is considerably more infectious than HIV, shared use of a spoon, in which heroin is heated, and a filter, through which the substance is drawn into the needle, present risks^[27-28]. It is possible that even a small amount of blood remaining on the fingers of a person helping with an injection is sufficient for infection^[29].

The presence of both human immunodeficiency virus (HIV) and HCV in an individual is called co-infection. Due to shared routes of transmission, co-infection is common. Overall, approximately 30% of HIV-infected persons in the United States are co-infected^[30]. In HIV-seropositive populations where drug injection is the greatest risk factor for HIV acquisition, prevalence of HCV is as high as 90%^[30]. In total, there are between 150,000 and 300,000 co-infected persons in the United States^[30].

The impact of co-infection is most significant in the social, physical functioning, and mental health aspect of an individual. Impaired concentration, fatigue, and depression are several symptoms experienced by those living with HIV/HCV^[31-32]. However, the positive impact of social support on coping and health behaviors have been found with patients who are diagnosed with chronic illnesses^[33-34]. Individuals living with HIV/HCV who receive social support have reported experiencing personal growth which has led to positive outlooks in life^[35].

The purpose of this study was to use qualitative methods to gain insight into the experiences of HCV-infected residents, an approach that has proved informative in helping individuals manage similar challenging chronic illnesses^[20-21]. Qualitative methods have been used before to describe the experiences of people living with HCV, but have not focused on Oxford House residents.

II. METHOD

A. Participants

Participants were Oxford House residents from the Chicago metropolitan area who had previously disclosed their HCV status. An Oxford House is a self-help, sober living environment for individuals who are in recovery; the primary goal of Oxford House is to provide housing for individuals who would like to remain sober^[36]. Oxford Houses are the largest self-help residential program in the US for people with substance use disorders, housing over 10,000 individuals^[37].

Specific Oxford Houses in Illinois were selected by an Oxford House recruiter who was aware of residents living with HCV. Individuals who fit the criteria were provided information regarding the research study by the Oxford House recruiter. The resident interested in participating in the study contacted the interviewer. A date and time was scheduled for the research participant and the interview was conducted at either an Oxford House or at DePaul University.

B. Data Collection and Qualitative Data Analysis

The research procedures, interview guide and consent form were approved by DePaul University's Institutional Review Board. Prior to the interview, the first author reviewed the informed consent form and requested that each research participants sign the form. All research participants were given a copy of the informed consent form.

The semi-structure qualitative interview consisted of 18 questions (see Appendix A). The questions were influenced by the various construct/domains covered by published qualitative studies of HCV-infected individuals.

Intending to generate hypothesis for further research, this explorative research study used a convenience sample drawn from women had disclosed their positive HCV status to other Oxford House residents. The semi-structure qualitative interview questions were designed to focus on three broad areas: experiences of contracting and being diagnosed with HCV, ways in which HCV affected their lives, and experiences living in an Oxford House.

The respondents were encouraged to expand on these issues and redirect the conversation if they desired. The average length of the interviews was 35 minutes. Interviews were conducted in English. The interviews were digitally recorded, transcribed, and entered into a qualitative software program for analysis.

Two analysts independently read the transcripts using NVIVO 9 (QSR International, 2010)^[38]. Text was identified, sorted and coded across transcripts. Analysts utilized a hierarchical coding system often called a tree because of the one-way branching with a root^[39]. This method of coding is used to develop data-driven categories, to link and structure categories, and it makes it possible to categorize richly and to code freely^[39]. Next, broader themes were independently identified by each analyst and the two lists of themes were compared and discussed by the two analysts. When discrepancies among themes arose, each analyst's reasons for creating and labeling the themes were discussed and data were re-reviewed until a common theme was agreed upon or a new theme was created. Lastly, identified broader themes were supported by specific quotes obtained from the transcripts.

III. FINDINGS

According to the demographic data, the mean age of the residents was 42.7, the residents had 11.4 mean years of education, 75% of the residents were African American, the mean length of stay in an Oxford House was 254 days, 100% of the participants were diagnosed with HCV, one participant was dually diagnosed with HIV/HCV, and 100% of the residents were infected due to IDU. Overall, participants were not surprised at their diagnosis, but it did impact their mood. Participants had difficulty with social functioning, experienced physical and psychological symptoms, and received a substantial amount of social support from family and Oxford House residents. Participant quotes are presented below and relate to the themes that were identified.

A. Response to HCV Diagnosis

The mean self-reported amount of time since first diagnosis was 7.3 years. Initial reactions to the diagnosis of HCV included depression and relief.

One participant described her reaction as: "I was a little depressed knowing there's no actual cure ... I hear it's not a great process to go through. There's depression and fear." In contrast, another participant reported feeling relief at the diagnosis. She said: "On a scale from 1–10, probably 9 on relief.... There is a reason why I felt so crabby...you know tired."

B. Mode of Contracting HCV

When participants were asked if they knew how they contracted HCV, all participants assumed that their IDU was to blame.

One participant said "By doing IV drugs.... Other than that, I have no idea. We all shared you know needles...dunno if it was always clean." In summary, all of the participants acknowledged that their behavior likely contributed to contracting HCV.

C. Information Regarding HCV

Several participants reported receiving education about HCV from medical providers, one participant retained misinformation from potentially unreliable sources.

One participant said that, "I'm more cautious ...When I go over to my family's house to eat ..., I make sure I always have something that I throw away, you know... not a regular plate." This response suggests that the participant may incorrectly believe that HCV, like hepatitis A, can be transmitted by saliva or food products.

D. Living with HCV

Only one participant reported experiencing fatigue. The participant said, "I've had a lot of sluggishness and fatigue for a long time." The other participants mentioned psychological symptoms when asked about receiving the diagnosis of HCV. Several participants reported that HCV resulted in long-term "irritability, not being able to control stuff, emotional issues."

Several participants indicated that living HCV had impacted their interpersonal relationships. One participant said, "It kind of embarrasses me, especially when...you know...when you feel like...uhm... having sex. Gotta tell the person.... I don't want to give it to him...you know."

Another participant reported that her relationship with her boyfriend was significantly affected. "... got sick and tired of the same fights over this thing. I am now single and have not had...you know...uhm sex since I got it (HCV)."

Several participants stated that having HCV had no impact on their interpersonal relationships. Families and OH residents were supportive. One said "It had brought her closer to her family: "My kids showed increased concern.... Asking me what's going on and asking me what's going on with the docs. And I've got Oxford House friends that really developed a strong presence you know, it's kind of good, I like it."

E. Co-Infection, Social Support, and Recovery

Support provided by Oxford House residents and family members had a positive impact on the participant who was dually diagnosed with HIV/HCV. Social support played a crucial role in her decision to stay in recovery. The participant said "I was using, every day. . . . And I did that for a whole year before coming to the Oxford House. Just before I came here, it was the worst it's ever been. Feeling like somebody was coming to get me, the sickness, being HIV positive, having Hepatitis on top of that. You know, being here and feeling loved, feels like I can keep on going forward and deal with all of my problems."

F. Recovery Process and HCV

The participants were asked about how they contracted HCV. A theme that emerged was the connection between motivation for recovery from substance use and motivation to seek medical help due to the HCV infection. All of the participants reported getting diagnosed with hepatitis C gave them motivation to either initiate or stay active in substance abuse recovery. "Another reason to stay clean...a good excuse not to use." Another participant said, "Getting the news about it (HCV) was what really motivated me...you know... to stay clean. I can go back to the drugs but don't wanna get real sick."

G. Oxford House and HCV

The participants reported high levels of support from other Oxford House residents. Disclosure of their HCV status was not a stressful event for any of the participants. One participant stated "A lot of these things are common anyways...part of living in a supportive environment. These issues usually come up....I feel a lot of support from them you know...they only get concerned when you don't deal with your problems."

IV. DISCUSSION

The interviews conducted with Oxford House residents living with HCV produced findings that can be used to develop and implement intervention programs to help individuals cope with this disease. Furthermore, the findings could help assist social service providers to better comprehend the issues and needs of people living with HCV. Previous qualitative studies that focused on individuals living with HCV have not included individuals in after-care recovery homes such as an Oxford House. Although the findings are limited to a small convenience sample and the results are not readily generalizable, the general focus on living with HCV produced unique data.

Despite previous studies persons living with HCV which concluded that knowledge about the risks of IDU were fairly good [25, 40], results suggest that participants may still have several misconceptions about HCV. A participant's notion about transmission of the virus can be addressed through basic information on HCV.

Relationship issues emerged as an important and common theme. One participant indicated difficulty with a boyfriend relationship. This is consistent with previous data suggesting that relationships are strained by concerns about future health and fear of transmission and leading to limited social interaction [41]. To address this issue, improving both general and patient/physician communication skills can reduce several of these worries. Participants, who reported positive experiences with family and Oxford House residents, received social support which can serve as positive examples for others with difficulties with relationships.

There were no differences in the experience of our dually diagnosed participant when compared to other participants in our study. Living with HIV/HCV promoted emotional stress and psychological problems as addressed in prior studies [42-44]. However, social support was a major key in the recovery process. During the participant's addiction, she experienced a sense of hopelessness, depression, and lack of support. In contrast, when she had social support there was a sense of a readiness to change and perceived the HIV/HCV infection in a different manner.

An interesting finding that emerged from the study was the psychological or motivational connection between injection drug use. Some participants only became willing or motivated to stay in their recovery once they knew they had HCV. This information can have important implications for the implementation of intervention programs for individual who were infected with HCV due to IV-drug use [45-46]. Programs may be more effective if they address both substance use and HCV at the same time.

Similar to previous studies [47-48], participants reported a myriad of negative feelings when first diagnosed with HCV. Unpredictably, reactions to being diagnosed with HCV were less intense or even a relief among our participants. This finding is similar to another study that focused on veterans' experiences living with HCV [21]. The participants' responses indicated the significance of obtaining trustworthy information and clinical support from clinical and medical staff. Participants obtained information from their primary physicians and social service providers which may have buffered their feelings about living with HCV after their initial reaction to their diagnosis.

Consistent with prior studies [20-21, 49-51], the participants' lives were impacted in a number of ways that included physical and psychological symptoms [52]. The experience of fatigue was common among our participants. Physical and psychological symptoms were frequently reported in our sample and in previous studies, and therefore should be addressed. Incorporating depression/anxiety and fatigue management techniques can address the fatigue factor and psychological symptoms for those living with HCV.

V. LIMITATIONS, CONCLUSION, AND FUTURE RESEARCH

The current study had a number of limitations that should be addressed. A small convenience sample was used, making it difficult to generalize to broader groups. Also, although every effort was made to reduce systematic bias, it is possible that the study design (including the kinds of questions asked, the order in which they were asked, and the setting in which interviews were conducted) contributed to the study results. The generalizability of these results is limited, given that information was only collected from a small number of participants in the Chicago metropolitan area. Qualitative research studies can involve selection bias and ought not to be considered a representative population sample in the statistical sense. However, recruitment purposefully focused on participants who had disclosed their HCV status to other residents in the Oxford House.

The interviews produced unique qualitative data on the impact that HCV had on the lives of several Oxford House residents. Similar to previous studies, the study found that the initial HCV diagnosis was difficult, and participants' interpersonal relationships and lives were negatively impacted by their HCV experience. Unlike some previous studies, some participants were lacking basic HCV health information. Finally, the study addressed the relationship between substance use and HCV, and how it may influence an individual's motivation to stay clean. Future research should further explore the relationships between substance use, mental health, and HCV infection, and utilize intervention models to address them concurrently instead of individually.

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APPENDIX A

INTERVIEW GUIDE

I am glad you have agreed to be interviewed. This interview is part of a DePaul Study focused on Oxford House residents who are living with HCV. We are asking for your participation because we are trying to learn more about the experiences of those Oxford House residents who have contracted and are diagnosed with HCV, and how HCV and other medical issues have affected their lives. We hope that this information will decrease the stigma regarding infectious diseases in order to provide a safe environment for those who are in recovery.

I am going to be recording this interview to make sure that I remember what you tell me. I will destroy this recording once I transcribe it. I would like to review some of the things that we said in the consent form and want to remind you that what we discuss is confidential. Remember, you may stop the interview at any time. If you have any questions about anything I ask, or if something is not clear, please ask and I will try to clarify things. You don't have to answer questions that make you feel uncomfortable. If you prefer not to answer a question, please let me know. If anything we discuss provokes unpleasant feelings, please let me know. Do you have any questions at this time? Are you ready to start?

I would like to begin the interview by asking you:

- Your gender?
 - Your age?
 - Marital status?
 - Years of education?
 - Racial background?
 - Length of time living in an Oxford House?
 - How many years have you been living with HCV?
 - Have you been tested for HIV and/or STDs?
 - If yes, what was/were the result/s of the test/s?
 - Are you currently taking any medication for your illness/illnesses?
 - If yes, what are you currently taking?
1. When do you think you were first diagnosed with HCV?
 2. Do you know how you contracted or got HCV?
 3. When you heard you had HCV, how did you respond? How did it make you feel? What kinds of questions did you have? What concerns did you have?
 4. Overall, how has having HCV impacted your life?
 5. How about on a day to day basis? Are there problems/concerns/challenges that you have now that you didn't have before you knew about HCV?
 6. How does it affect your health, or change things medically?
 7. How does it affect other parts of your life (like how you relate to others, to your family, things you do/don't do)?
 8. What symptoms have you experienced from having HCV? Are there symptoms you have that might be from treatment for HCV, but you're not sure? Tell me about them.
 9. What kinds of things do you do to try to handle your symptoms when you get them?
 10. How has your daily functioning changed since you got HCV? Is it more limited? In what ways?
 11. How has having HCV impacted the lives of your family or friends? Do they know about it? What are their attitudes about it? Have any of them been tested for HCV? How has living with HCV changed the ways they act with you or you act with them?
 12. What kind of things do you do on your own to help manage your HCV?

13. What other medical problems do you have besides HCV? (e.g., HIV/AIDS, hypertension, etc)
14. At times individuals may have mixed feeling when one discloses they have HCV or other STIs, what were the Oxford House residents' reactions when you informed them you were living with HCV or other STIs?
15. What kind of support have you received from other Oxford House residents since you disclosed your illness and/or illnesses?
16. How has living with HCV impacted your recovery?
17. The goal of Oxford House is to provide a clean sober living environment, how has this Oxford House helped you with your recovery?
18. Oxford House welcomes all who coping with substance abuse addictions, how does this Oxford House make you feel like you belong?

This is the end of the interview. Thank you very much for your time!

REFERENCES

- [1] S. R. Lee, G. D. Yearwood, and G. B. Guillon, "Evaluation of a rapid, point-of-care test device for the diagnosis of hepatitis C infection," *Journal of Clinical Virology*, vol. 48(1), pp. 15-17, 2010.
- [2] M. J. Alter, D. Kruszon-Moran, and O. V. Nainan, "The prevalence of hepatitis C virus infection in the United States, 1988 through 1994," *New England Journal of Medicine*, vol. 341, pp.556-562, 1999.
- [3] S. H. Mehta, J. Astemborski, G. D. Kirk, S. A. Strathdee, K. E. Nelson, and D. Vlahov, "Changes in blood-borne infection risk among injection drug users," *Journal of Infectious Diseases*, vol. 203(5), pp. 587-594, 2011.
- [4] A. Osinusi, D. Kleiner, B. Wood, M. Polis, H. Masur, and S. Kottlil, "Rapid development of advanced liver fibrosis after acquisition of hepatitis C infection during primary HIV infection," *AIDS Patient Care and STDS*, vol. 23(6), pp. 403-406, 2009.
- [5] R. A. Tohme, and S. D. Holmberg, "Is sexual contact a major mode of hepatitis C transmission?" *Hepatology*, vol. 52, pp. 1497-1505, 2010.
- [6] Centers for Disease Control and Prevention, "Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease," *MMWR*, vol. 47 (No. RR-19), 1998.
- [7] Centers for Disease Control and Prevention, *Evaluation of Acute Hepatitis C Infection Surveillance - United States, 2008*, November 2010, vol. 59(43), pp. 1407-1410, 2010.
- [8] S. L. Bailey, L. J. Ouellet, M. E. Mackesy-Amity, E. T. Golub, H. Hagan, and S. M. Hudson, "Perceived risk, peer influences, and injection partner type predict receptive syringe sharing among young adult injection drug users in five U.S. cities," *Drug and Alcohol Dependence*, vol. 91(1), pp. 18-29, 2007.
- [9] G. L. Armstrong, A. M. Wasley, and E. P. Simard, "The prevalence of hepatitis C virus infection in the United States, 1999 through 2002," *Annals of Internal Medicine*, vol. 144, pp. 705-714, 2006.
- [10] Centers for Disease Control and Prevention, *National hepatitis C prevention strategy: a comprehensive strategy for the prevention and control of hepatitis C virus infection and its consequences*, 2001.
- [11] S. Tortu, J. M. McMahon, E. R. Pouget, and R. Hamid, "Sharing of noninjection drug-use implements as a risk factor for hepatitis C," *Substance Use Misuse*, vol. 39(2), pp. 211-224, 2004.
- [12] A. Laudet, J. Becker, and W. White, "Don't wanna go through that madness no more: quality of life satisfaction as predictor of sustained substance use remission," *Substance Use Misuse*, vol.44, pp. 227-252, 2009.
- [13] E. Strauss, and M. C. D. Teixeira, "Quality of life in hepatitis C," *Liver International*, vol. 26, pp. 755-765, 2006. doi:10.1111/j.1478-3231.2006.01331.x
- [14] R. T. Mulder, M. Ang, B. Chapman, A. Ross, I. F. Stevens, and C. Edgar, "Interferon treatment is not associated with a worsening of psychiatric symptoms in patients with hepatitis C," *Journal of Gastroenterology and Hepatology*, vol. 15, pp. 300-303, 2000.
- [15] P. Braitstein, K. Li, T. Kerr, J. S. Montaner, R. S. Hogg, and E. Wood, "Differences in access to care among injection drug users infected either with HIV and hepatitis C or hepatitis C alone," *AIDS Care*, vol. 18(7), pp. 690-693, 2006.
- [16] K. Sheppard, and A. Hubbert, "The patient experience of treatment for hepatitis C," *Gastroenterology Nursing*, vol. 29(4), pp. 309-315, 2006.
- [17] S. Conrad, L. E. Garrett, W. G. E. Cooksley, M. P. Dunne, and G. A. Macdonald, "Living with chronic hepatitis C means 'you just don't have a normal life anymore,'" *Chronic Illness*, vol.2, pp. 121-131, 2006. doi:10.1177/1742395306002-0020701
- [18] G. M. Lauer, and B. D. Walker, "Hepatitis C virus infection," *New England Journal of Medicine*, vol. 345, pp. 41-52, 2001.
- [19] N. Singh, T. Gayowski, M. M. Wagener, and I. R. Marino, "Vulnerability to psychological distress and depression in patients with end-stage liver disease due to hepatitis C virus," *Clinical Transplantation*, vol. 11, pp. 406-411, 1997.
- [20] M. Glacken, G. Kernohan, and V. Coates, "Diagnosed with Hepatitis C: A descriptive exploratory study," *International Journal of Nursing Studies*, vol. 38(1), pp. 107-116, 2001.
- [21] E. J. Groess, K R. Weingart, R. M. Kaplan, J. A. Clark, A. I. Gifford, B. Samuel, and S. M. Ho, "Living with Hepatitis C: Qualitative interviews with Hepatitis C-infected veterans," *Journal of General Internal Medicine*, vol. 23(12), pp. 1959-1965, 2008. DOI: 10.1007/s11606-008-0790-y
- [22] J. A. Blasiolo, L. Shinkunas, D. R.LaBrecque, R. M. Arnold, and S. L. Zickmund, "Mental and physical symptoms associated with

- lower social support for patients with hepatitis C,” *World Journal of Gastroenterology*, vol. 12(29), pp. 4665-4672, 2006.
- [23] R. E. Booth, B. K. Campbell, S. K. Mikulich-Gilbertson, C. J. Tillotson, D. Choi, and J. Robinson, “Reducing HIV-related risk behaviors among injection drug users in residential detoxification,” *AIDS and Behavior*, vol. 15(1), pp. 30-44, 2011.
- [24] E. Golub, S. Strathdee, S. Bailey, H. Hagan, M. Latka, and S. Hudson, “Distributive syringe sharing among young adult injection drug users in five U.S. cities,” *Drug and Alcohol Dependence*, vol. 91(Suppl.1), pp. S30-S38, 2008.
- [25] C. F. Kwiakowski, K. Corsi, and R. E. Booth, “The association between knowledge of hepatitis C virus status and risk behaviors in injection drug users,” *Addiction*, vol. 97(10), pp. 1289-1294, 2002.
- [26] L. E. Thorpe, L. J. Ouellet, R. Hershow, S. L. Bailey, I. T. Williams, and J. Williamson, “Risk of hepatitis C virus infection among young adult injection drug users who share injection equipment,” *American Journal of Epidemiology*, vol. 155(7), pp. 645-653, 2002.
- [27] C. J. Howe, C. M. Fuller, D. C. Ompad, S. Galea, B. Koblin, and D. Thomas, “Association of sex, hygiene and drug equipment sharing with hepatitis C virus infection among non-injecting drug users in New York City,” *Drug Alcohol Dependence*, vol. 79(3), pp. 389-395, 2005.
- [28] B. J. Thompson, and R. G. Finch, “Hepatitis C virus infection,” *Clinical Microbiology and Infection*, vol. 11(2), pp. 86-94, 2005.
- [29] R. D. Burt, H. Thiede, and H. Hagan, “Serosorting for hepatitis C status in the sharing of injection equipment among Seattle area injection drug users,” *Drug and Alcohol Dependence*, vol. 105(3), pp. 215-220, 2009.
- [30] Centers for Disease Control and Prevention, “HIV surveillance—United States, 1981–2008,” *MMWR*, vol. 60, pp. 689-693, 2011.
- [31] L. Grassi, J. Satriano, A. Serra, B. Biancosino, S. Zotos, and L. Sighinolfi, “Emotional stress, psychosocial variables and coping associated with hepatitis C virus and human immunodeficiency virus infections in intravenous drug users,” *Psychotherapy and Psychosomatics*, vol. 71(6), pp. 342-349, 2002.
- [32] H. J. Von Giesen, T. Heintges, N. Abbasi-Boroudjeni, S. Kucukkoğlu, H. Koller, and B.A. Haslinger, “Psychomotor slowing in hepatitis C and HIV infection,” *Journal of Acquired Immune Deficiency Syndrome*, vol. 35, pp. 131-137, 2004.
- [33] R. J. Fontana, K. B. Hussain, S. M. Schwartz, C. A. Moyer, G. L. Su, and A. S. Lok, “Emotional distress in chronic hepatitis C patients not receiving antiviral therapy,” *Journal of Hepatology*, vol. 36, pp. 401-407, 2002.
- [34] M. R. Kraus, A. Schäfer, H. Csef, M. Scheurlen, and H. Faller, “Emotional state, coping styles, and somatic variables in patients with chronic hepatitis C,” *Psychosomatics*, vol. 41, pp. 377-384, 2000.
- [35] L. Grassi, D. Mondardini, M. Pavanati, L. Sighinolfi, A. Serra, and F. Ghinelli, “Suicide probability and psychological morbidity secondary to HIV infection: A control study of HIV-seropositive, hepatitis C virus (HCV)-seropositive and HIV/HCV-seronegative injecting drug users,” *Journal of Affective Disorders*, vol. 64(2/3), pp. 195-202, 2001.
- [36] L.A. Jason, B. D. Olson, and K. Foli, *Rescued lives: The Oxford House approach to substance abuse*, New York: Routledge, 2008.
- [37] L. A. Jason, and J. R. Ferrari, “Oxford House recovery homes: Characteristics and effectiveness,” *Psychological Services*, vol. 7, pp. 92-102, 2010. PMID: PMC2888149.
- [38] QSR International, Melbourne, Australia: Copyright (1995-2013).
- [39] M. Patton, *Qualitative Research and Evaluation Methods*. 3rd Edition. Sage Publications. International Educational and Professional Publisher, London, 2002.
- [40] L. B. Seeff, “The natural history of chronic hepatitis C virus infection,” *Clinical Liver Disease*, vol. 1, pp. 587-602, 1997.
- [41] J. L. Wylie, L. Shah, and A. M. Jolly, “Demographic, risk behaviour and personal network variables associated with prevalent hepatitis C, hepatitis B, and HIV infection in injection drug users in Winnipeg, Canada,” *BMC Public Health*, vol. 6, pp. 229, 2006.
- [42] C. Bova, C. Jaffarian, P. Himlan, L. Mangini, and L. Ogawa, “The symptom experience of HIV/HCV coinfecting adults,” *Journal of the Association of Nurses in AIDS Care*, vol. 19(3), pp. 170-180, 2008.
- [43] D. A. Fishbein, Y. Lo, J. F. Reinus, M. N. Gourevitch, and R. S. Klein, “Factors associated with successful referral for clinical care of drug users with chronic hepatitis C who have or are at risk for HIV infection,” *Journal of Acquired Immune Deficiency Syndromes*, vol. 37(3), pp. 1367-1375, 2004.
- [44] J. S. Kadam, and A. H. Talal, “Changing treatment paradigms: hepatitis C virus in HIV-infected patients,” *AIDS Patient Care & STDs*, vol. 21(3), pp. 154-168, 2007.
- [45] S. Zickmund, S. L. Hillis, M. J. Barnett, L. Ippolito, and D. R. LaBrecque, “Hepatitis C virus-infected patients report communication problems with physicians,” *Hepatology*, vol. 39(4), pp. 999-1007, 2004.
- [46] K. M. Roy, D. J. Goldberg, S. Hutchinson, S. O. Cameron, K. Wilson, and L. MacDonald, “Hepatitis C virus among self-declared non injecting sexual partners of injecting drug users,” *Journal of Medical Virology*, vol. 74(1), pp. 62-66, 2004.
- [47] B. Crockett, and S. M. Gifford, “Eyes wide shut: Narratives of women living with hepatitis C in Australia,” *Women & Health*, vol. 39, pp. 117-137, 2004. doi:10.1300/J013v39n04_07
- [48] G. Owen, “An ‘elephant in the room’? Stigma and hepatitis C transmission among HIV-positive ‘serosorting’ gay men,” *Culture, Health & Sexuality*, vol. 10, pp. 601-610, 2008. doi:10.1080/13691050802061673
- [49] K. W. Smith, and M. J. Larson, “Quality of life assessments by adult substance abusers receiving publicly funded treatment in Massachusetts,” *American Journal of Drug and Alcohol Abuse*, vol. 29, pp. 323-335, 2003.
- [50] D. Strader, “Coinfection with HIV and hepatitis C virus in injection drug users and minority populations,” *Clinical Infectious Diseases*, vol. 41, pp. S7-S13, 2005. doi:10.1086/429489
- [51] E. Wood, T. Kerr, J. Stoltz, Z. Qui, R. Zhang, J. S. Montaner, and M. W. Tyndall, “Prevalence and correlates of hepatitis C infection among users of North America’s first medically supervised safer injection facility,” *Public Health*, vol. 119(12), pp. 1111-1115, 2005.
- [52] M. Glacken, V. Coates, G. Kernohan, and J. Hegarty, “The experience of fatigue for people living with hepatitis C,” *Journal of Clinical Nursing*, vol. 12(2), pp. 244-252, 2003.