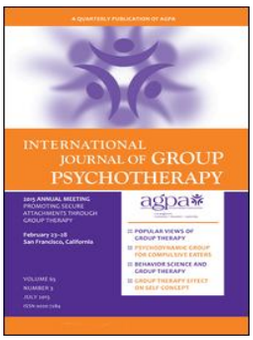

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Engagement in Group Psychotherapy Among Marginalized Individuals With Hepatitis C

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ABSTRACT

This article examines an innovative psychoeducational group model at a community-based hepatitis C treatment program in Toronto, Canada. Group support is increasingly used as part of community-based, interdisciplinary approaches to addressing the complex psychosocial needs and barriers to care of individuals living with and/or

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undergoing treatment for hepatitis C. This article articulates the theoretical framework and details of one such group model. It also examines group engagement and outcomes using data collected over three group cycles. Psychotherapeutic engagement was higher than might be anticipated for a highly marginalized population. Specifically, group cohesion measures were equivalent or higher compared to norms for other support/psychotherapy groups. This study suggests that individuals with complex psychosocial issues have the ability to engage meaningfully in group therapy.

Hepatitis C (HCV) is a serious illness that is often accompanied by complex psychosocial issues. Despite the growing use of group therapy as a model of support for a variety of medical illnesses and the great need for psychosocial supports among marginalized people living with HCV, there are limited models of group therapy available for this particular patient population. This article examines an innovative group therapy model that offers treatment and support for marginalized people living with HCV. The goal is to demonstrate the impact on client engagement of a group intervention that overcomes traditional and expected barriers to group engagement.

HEPATITIS C

Chronic HCV, a viral infection affecting the liver and transmitted via blood-to-blood contact, is a global epidemic with approximately 170 million people infected worldwide (Schaefer, Heinz, & Backmund, 2004). In North America, the majority of HCV infections are related to injection drug use, with an estimated prevalence of 60 to 97% among people who inject drugs (Aceijas & Rhodes, 2007). Although treatment for HCV exists and offers successful virus clearance rates, few people who inject drugs receive treatment (only 1–8% worldwide) (Grebely et al., 2009; Iversen et al., 2014; Mehta et al., 2008).

Multiple barriers exist to HCV treatment. Historically, the treatment regime has been onerous and could create challenging neuropsychiatric side effects, including depression, mania, and increased suicidal ideation (Chrone & Gabriel, 2003; Liu, Schneekloth, & Talwalkar, 2010; Sockalingam, Shammi, & Stergiopolous, 2007). Lack of information about HCV or treatment itself as well as fear or stigma related to

treatment and/or drug use (Munoz-Plaza et al., 2008; Swan et al., 2010; Treloar, Rance, & Backmund, 2013) are additional and ongoing barriers. Health care providers have been reluctant to offer treatment to people who use drugs primarily due to concerns about adherence and reinfection (Grebely, de Vlaming, Duncan, Vilijoen, & Conway, 2008; Myles, Mugford, Zhao, Krahn, & Wang, 2011). Finally, there is limited capacity within specialist-based tertiary models of care (where HCV treatment is predominantly available) to provide adequate support for the complex psychosocial issues that often accompany HCV, such as poverty, social isolation, and trauma (Zeremski et al., 2013).

To address some of these barriers, community-based interdisciplinary models of HCV treatment have emerged in recent years, with psychosocial support as a component, typically one-on-one supportive counseling (from a nurse, social worker, or peer worker) and/or an informal drop-in group. Research has demonstrated that these models have treatment outcomes comparable with tertiary care programs (Charlebois, Lee, Cooper, Mason, & Powis, 2012; Grebley et al., 2010; Sylvestre & Zweben, 2007). However, few have attempted to articulate or evaluate the psychosocial support components (Grebely et al., 2010; Newman et al., 2013; Sylvestre & Zweben, 2007; Woolhouse, Cooper, & Pickard, 2013). Further, no studies on groups offered to individuals living with HCV, who also experience mental health issues and use drugs and/or alcohol, have examined the group factors and outcomes within these integrative models of care. We believe this article is the first study to examine an innovative therapeutic group for marginalized people living with HCV. Our objectives are to describe this unique group model, delineate its theoretical framework, and examine findings related to group process and mental health.

TORONTO COMMUNITY HEP C PROGRAM GROUP MODEL

The group therapy model described here is located within the Toronto Community Hep C Program (TCHCP). The TCHCP is an interdisciplinary, community-based HCV treatment program for individuals who are active drug and/or alcohol users and/or have serious mental health issues and who are living in poverty. The program is administered through a partnership of three community-based health centers, which are integrated with specialist care (infectious disease

specialist and psychiatrist) from nearby university hospitals. All health care is delivered during the group intervention. Clients may also access case management, individual counseling or support, and referrals.

The group runs weekly for two hours for approximately 18 weeks. Prescreening is designed to be low-threshold, involving a brief informal meeting in person or on the phone with one of the group facilitators or program nurse. Membership is closed after the fourth week and a maximum of 20 people participate in each group. They are provided with a healthy meal, transit tickets, and an honorarium of $10 CAD per session to offset any income lost as a result of attending. Groups are co-facilitated by two community workers with extensive experience working with marginalized drug users within a harm reduction framework. Group inclusion criteria require only that clients have tested positive for HCV and are unlikely to be able to access care within the tertiary health care system. Individuals with high levels of drug use, histories of abuse or trauma, a history of violence or aggressive behavior, past forensic history, or a diagnosis of a personality disorder (including antisocial personality disorder) are not excluded from group participation. Group members vary in terms of their respective stages in the treatment process. Members are permitted and often encouraged to attend multiple group cycles.

GROUP THEORETICAL FRAMEWORK

The TCHCP group is a broadly integrative model of treatment, borrowing from supportive psychotherapy groups, art therapy groups, and psychoeducational groups. Its unique form of group therapy developed through an iterative process, informed by group therapy principles regarding belonging, therapeutic engagement, and active coping, along with formative patient feedback to respond to evolving group member needs. The group creator and primary facilitator during the study period is one of the authors of this study (ZD). The group structure and facilitation style draws not only from principles of group psychotherapy (Yalom & Leszcz, 2005) but from the theories and practices of harm reduction and popular education.

Harm reduction includes any approach to service provision that does not require or encourage abstinence as a condition of service (Riley et al., 1999) and recognizes the important role of peers as knowledge experts (Strike et al., 2006). The TCHCP offers access to HCV treatment and other health services that is not contingent upon abstinence and maintains a non-judgmental atmosphere regarding drug use.

Strengthening the capacity of clients to advocate for their individual and collective choices and rights is also an important group orientation, with roots in the theories of popular education (Freire, 1973). The latter is an educational approach that was developed in Latin America; "popular" refers to the people of the working and/or unemployed classes. Freire's techniques for developing "critical consciousness" among a group of people with shared interests are reflected in the group facilitation style, which promotes listening, dialogue, reflection, and collective action. Group members are supported to critically analyze the social forces and systemic structures that impact their lives and shape their behaviors. In this way, the group acts as a place for both individual empowerment and community development.

Each group session is structured around a brief presentation or topic of discussion (e.g., liver health, safer drug use), and members are encouraged to share their experience and/or knowledge of a particular issue. The educational component is particularly empowering for the clients served by the TCHCP who are less likely to be able to access relevant medical information due to their social marginalization and limited resources. The expectation that group members have a valuable role in teaching and supporting one another is instilled early on and reinforced by the group facilitators. Peer-to-peer support is encouraged within and beyond the group, and mutual support for coping is extensive. Although a major emphasis in the group is the provision of information aimed at increasing HCV knowledge and treatment support, powerful emotional exchanges are common. The group facilitation style strives to cultivate an experience of trust, safety, and acceptance where there is minimal gap between what the provider intends and what the client experiences, thus mitigating negative provider/patient power dynamics. The group provides a much-needed space of community belonging for a group of individuals who more often face isolation, exclusion, and stigmatization (Silberbogen, Ulloa, Janke, & Mori, 2009).

STUDY DESIGN

Sample

The study sample was comprised of individuals attending one or more of three group cycles at one of the three program sites during the period between June 28, 2011, and August 7, 2012, for a total of nine uniquely composed groups. Questionnaire data, consisting of self-administered group process and mental health measures, were collected at baseline and every four weeks for a total of five time points during each of the three group cycles. Ethics approval for this study was obtained from the University Health Network, Toronto, Canada, on May 27, 2011.

Study Measures

Demographic and health information, including HIV status, substance use, and mental health history were collected via chart review. Substance use was self-reported and/or abstracted from individuals' clinical charts, and this history was binary (e.g., yes or no) and did not contain any further qualitative data. Active substance use was defined as use of drugs (illicit drugs and/or legal drugs not used as prescribed, not including nicotine) and/or alcohol within the past 30 days. Housing status was defined as stable (living in a house or apartment) or unstable (living with friends/relatives, in a shelter, or on the street, hotel/motel), and was based on self-report. For individuals attending multiple group cycles, demographic and health data were evaluated independently for baseline at each group cycle they attended. Non-attenders (or "drop-outs") were identified by the primary group therapist (ZD) after a chart review of participants who had attended less than the study average number of sessions. From this list of low attenders, individuals were categorized as having dropped out if they had discontinued their participation prior to completion of any therapeutic goal(s) and had not completed a previous group in another cycle.

Clinical group process measures used were the Empathy Scale – Patient's Version (Burns & Nolen-Hoeksema, 1992; Persons & Burns, 1985) and the Therapeutic Factors Inventory (TFI): Cohesiveness Scale (Lese & Macnair-Semands, 2000). The Empathy Scale is a self-report questionnaire containing 10 items that reflect clients' perceptions of the

therapist's warmth, genuineness, and empathy during the most recent therapy session. Because each group has two facilitators, participants were asked to come up with a joint score. It uses a 4-point Likert scale with scores that range from -15 to 15; scores from negative statements are subtracted from scores from statements that describe a positive relationship. TFI Cohesion is a 9-item Likert scale that measures a group member's sense of belonging and experiences of acceptance, trust, and cooperation in group. Items are rated on a 7-point Likert scale, ranging from Strongly Disagree to Strongly Agree. Scores range from 9 to 63. Both measures are recommended in the American Group Psychotherapy Association Core Battery (Strauss, 2008).

Depression and anxiety were measured using the Patient Health Questionnaire-9 (PHQ-9) and the Generalized Anxiety Disorder-7 (GAD-7) (Spitzer, Kroenke, & Williams, 1999; Spitzer, Kroenke, Williams, & Lowe, 2006). The PHQ-9 is a 9-item clinical tool used to measure depression. Scores range from 0–27. Scores of 5–9 indicate mild depression, 10–14 indicate moderate depression, and more than 15 is severe. The GAD-7 is a 7-item questionnaire that measures anxiety, with scores ranging from 0–21. Scores of 0–5 indicated mild anxiety, 5–10 moderate anxiety, and more than 15, severe. Both the GAD-7 and PHQ-9 have been used in a variety of medically ill patient populations, including patients with liver disease (Heckbert et al., 2010; Holzapfel, Zugck, Muller-Tasch, Lowe, & Wild,, 2007; Sockalingam et al., 2011).

Baseline measures were collected at the end of the first meeting for the PHQ-9 and the GAD-7. The Empathy Scale and TFI-Cohesiveness Scale were administered for the first time at Week 4. It was felt that the group process measures would be more accurate after clients attended the first few sessions and that attendance could be used as a proxy for cohesion in the early phase of the group. This decision was also made to reduce the research burden at the first group, in keeping with the low-barrier approach of the group being studied.

Statistical Methods

Descriptive statistics are presented as means, standard deviations, and, occasionally, ranges for continuous variables; also presented are counts and percentages for categorical variables. We investigated the impact of client factors on the number of sessions attended in both

the complete study sample overall (n = 163) and in each of the cycles. Specifically, we estimated the difference in mean number of sessions attended across binary covariates. Continuous covariates—age and monthly income—were dichotomized before considering potential associations with number of sessions attended. In each cycle, where observations are independent, we use linear regression to investigate the impact of binary covariates on a continuous response. Because in the overall analysis some of the same participants from the three cycles are pooled, we extend the simple linear regression framework to a linear generalized estimating equation (GEE) framework to account for the correlated (non-independent) nature of our data. Again, we use the linear GEE model to assess the impact of our binary covariates on a continuous response variable (Hardin & Hilbe, 2012; Liang & Zeger, 1986).

When analyzing changes in mental health indicators (i.e., GAD-7 and PHQ-9) and group process measures (i.e., TFI – empathy and cohesion scores) between entry and exit from group psychotherapy, we construct simple difference scores and use linear regression to assess whether the estimated intercept is zero. When the difference scores are pooled across each of the three cycles, we use a linear GEE model to account for the correlated nature of our data to derive inferences regarding whether the difference score equals zero.

RESULTS

Client Demographics

A total of 163 (non-unique) and 91 unique individuals participated in the study. Fifty-three individuals participated in cycle 1; 55 individuals participated in cycle 2, and 55 in cycle 3. Forty-three individuals participated in only one group cycle, 24 in two, and 24 in all three of the group cycles. Sociodemographics, substance use, and physical and mental health characteristics for the 91 unique individuals are presented in Table 1. Participants were on average 47 years old (SD = 9 years), male (71%), earned on average $785/month (SD = $266 CAD/month), and were mainly in stable housing (80%). The majority were active drug and/or alcohol users and had serious mental health issues, such as suicidal ideation and psychiatric hospitalization.

Group Engagement

The average number of sessions attended per group was 11.76 (SD = 4.91; range = 1–19), and there were no significant differences between cycles. Three people died during a group cycle, and one died in the time between cycles. The non-attendance rate (rate of member dropout from group) for the unique study sample ($n = 91$) was 19.8%.

Differences in the mean number of sessions attended are presented in Table 2. Overall, we observed that younger participants, active substance users, and individuals with a history of depression or aggressive behavior attended fewer sessions on average. Individuals who were in HCV treatment at the start of group, or who started treatment during the study period, attended more sessions on average. The direction of the estimated effect sizes for age, active substance use, depression, history of aggressive behavior, and on HCV treatment during group psychotherapy was consistent in each of the three cycles, although cycle-specific effect sizes failed to reach statistical significance.

Group Process and Outcomes

We measured individual mental health outcomes (GAD-7 and PHQ-9) and group process measures (Empathy and TFI Cohesion scales) at both entry and exit from each group. Average differences in these scale scores between exit (Week 16) and entry (Week 1: PHQ-9 and GAD-7; Week 4: Empathy & TFI-Cohesiveness) are displayed in Table 3.

Participants reported levels of anxiety and depression that were within the moderate range at both entry and exit from group in each cycle. In the overall analysis for the full study sample ($n = 163$), the mean baseline GAD score (measuring anxiety) was 8.24 (SD = 5.68; range = 0–21) and at week 16 was 7.82 (SD = 5.73; range = 0–21). In cycle 1, a statistically significant increase in GAD scores was observed ($p = 0.0029$). In cycle 3, a significant decrease in GAD scores was observed ($p = 0.0115$). The other cycles showed a trend toward improvement in anxiety levels but no measurable effects. The mean PHQ score (measuring depression) at baseline for the overall sample was 10.14 (SD = 5.81; range = 0–25) and at week 16 was 9.84 (SD = 6.33; range = 0–27). In cycle 1, a statistically

Table 1. Participant Demographics

	Unique sample N=91	Cycle 1 N=53	Cycle 2 N=55	Cycle 3 N=55
Age – mean (SD)	47.1 (9.1)	48.9 (7.6)	48.7 (8.2)	45.2 (10.2)
Gender	65 (71%)	32 (60.4%)	34 (61.8%)	39 (70.9%)
Male	25 (28%)	20 (37.7%)	20 (36.4%)	16 (29.1%)
Female	1 (1%)	1 (1.9%)	1 (1.8%)	—
Trans				
Income per month – mean (SD)	785.4 (266.4)	848.8 (222.2)	813.9 (272.7)	790.3 (267.8)
Housing status - stable	72 (80.0%)	43 (82.7%)	41 (77.4%)	42 (79.3%)
Hep C genotype	62 (74.7%)	42 (82.4%)	40 (78.4%)	38 (74.5%)
1	21 (25.3%)	9 (17.6%)	11 (21.6%)	13 (25.5%)
2/3				
HIV status = Yes	8 (9.9%)	5 (10.0%)	5 (10.0%)	4 (8.7%)
Past substance use = Yes	89 (100%)	52 (100%)	55 (100%)	54 (100%)
Active substance use = Yes	71 (79.8%)	44 (86.3%)	40 (75.5%)	41 (77.4%)
Active IDU = Yes	12 (13.3%)	5 (9.4%)	6 (11.8%)	9 (17.0%)
Active Crack Use = Yes	50 (56.8%)	30 (57.7%)	28 (52.8%)	31 (59.6%)
Alcohol = Yes	80 (89.9%)	47 (88.7%)	50 (94.3%)	49 (90.7%)
Crack = Yes	79 (89.8%)	48 (92.3%)	58 (87.3%)	47 (88.7%)
Tobacco = Yes	86 (97.7%)	51 (98.1%)	53 (96.4%)	53 (100%)
Opioid = Yes	67 (82.7%)	39 (81.3%)	41 (80.4%)	43 (84.3%)
Marijuana = Yes	74 (92.5%)	39 (88.6%)	45 (90.0%)	46 (90.2%)
Methamphetamine = Yes	12 (13.5%)	7 (13.2%)	9 (16.7%)	7 (13.0%)
Other substance = Yes	61 (69.3%)	36 (69.2%)	43 (79.6%)	37 (71.2%)
Methadone Tx = Yes	25 (28.7%)	12 (24.0%)	17 (36.7%)	21 (39.6%)
Depression = Yes	73 (82.0%)	44 (84.6%)	42 (77.8%)	43 (79.6%)
Bipolar = Yes	19 (21.1%)	11 (20.8%)	13 (23.6%)	8 (14.8%)
Schizophrenia = Yes	9 (10.0%)	5 (9.4%)	7 (12.7%)	5 (9.3%)

Suicidal thoughts – ever = Yes	65 (86.7%)	38 (86.4%)	41 (89.1%)	42 (91.3%)
Suicidal thoughts –past year = Yes	41 (64.1%)	23 (63.9%)	27 (65.9%)	25 (62.5%)
Suicide attempt – ever = Yes	34 (43.6%)	21 (45.7%)	23 (47.9%)	22 (45.8%)
Suicide attempt – past year = Yes	6 (7.5%)	5 (10.9%)	6 (11.5%)	4 (8.0%)
Mental health hospitalization = Yes	39 (47.0%)	26 (53.1%)	26 (52.0%)	23 (44.2%)
Hx aggressive behavior = Yes	69 (86.3%)	42 (91.3%)	43 (87.8%)	40 (83.3%)

Table 2. Group Engagement.

	Total sample N=163	Cycle 1 N=53	Cycle 2 N=55	Cycle 3 N=55
Age:	-1.75*	-1.49	-2.42	-2.07
(LT 49 years) – (GE 49 Years)	(-3.40, -0.10)	(-4.08, 1.09)	(-5.06, 0.21)	(-4.62, 0.48)
Gender:	1.07	-0.22	2.11	0.44
(Female/Trans) – (Male)	(-0.81, 2.94)	(-2.90, 2.47)	(-0.64, 4.87)	(-2.36, 3.25)
Income:	-0.32	0.11	-1.34	-0.70
(LT 900$/month) – (GE 900$/month)	(-2.10, 1.47)	(-2.94, 3.16)	(-4.39, 1.71)	(-3.42, 2.03)
Housing status:	1.70	2.62	2.51	-0.29
(No) – (Yes)	(-0.07, 3.47)	(-0.70, 5.94)	(-0.53, 5.54)	(-3.60, 3.02)
Hep C genotype:	0.16	1.67	0.18	-0.17
(Genotype 1) – (Genotype 2/3)	(-1.90, 2.21)	(-1.76, 5.11)	(-3.21, 3.56)	(-3.20, 2.87)
HIV status:	1.60	-0.07	1.29	3.02
(No) – (Yes)	(-1.45, 4.66)	(-4.49, 4.36)	(-3.28, 5.86)	(-1.99, 8.03)
Past substance use:				
(No) – (Yes)				
Active substance use:	1.85*	0.02	2.67	1.31
(No) – (Yes)	(0.09, 3.61)	(-3.83, 3.87)	(-0.43, 5.77)	(-1.63, 4.25)
Active IDU:	0.70	1.74	4.73*	-1.60
(No) – (Yes)	(-1.08, 2.48)	(-2.62, 6.10)	(0.90, 8.57)	(-4.83, 1.64)
Active Crack Use:	-0.91	0.83	-2.05	-1.00
(No) – (Yes)	(-2.58, 0.76)	(-1.74, 3.41)	(-4.63, 0.54)	(-3.67, 1.66)
Alcohol:	0.50	2.77	2.35	-3.15
(No) – (Yes)	(-2.52, 3.52)	(-1.21, 6.75)	(-3.39, 8.10)	(-7.53, 1.22)
Crack:	1.95	3.85	0.78	1.26
(No) – (Yes)	(-0.48, 4.38)	(-0.91, 8.62)	(-3.23, 4.79)	(-2.85, 5.37)
Tobacco:	-2.22	0.57	-3.00	
(No) – (Yes)	(-9.15, 4.72)	(-8.90, 10.04)	(-10.10, 4.10)	

Opioid:	1.20	-0.15	2.36	0.69
(No) – (Yes)	(-1.47, 3.86)	(-3.59, 3.28)	(-1.09, 5.83)	(-3.03, 4.42)
Marijuana:	2.10	2.28	2.20	1.02
(No) – (Yes)	(-0.13, 4.32)	(-2.08, 6.64)	(-2.61, 7.01)	(-3.52, 5.57)
Methamphetamine:	0.70	1.92	1.60	-1.89
(No) – (Yes)	(-1.47, 2.88)	(-1.84, 5.67)	(-2.03, 5.23)	(-5.69, 1.91)
Other substance:	-1.57	-1.65	-2.74	-1.21
(No) – (Yes)	(-3.50, 0.35)	(-4.41, 1.10)	(-6.04, 0.56)	(-4.16, 1.74)
Methadone Tx:	0.62	1.52	-1.13	1.80
(No) – (Yes)	(-1.40, 2.64)	(-1.56, 4.60)	(-4.10, 1.84)	(-0.83, 4.42)
Depression:	2.23*	2.23	2.99	0.28
(No) – (Yes)	(0.31, 4.14)	(-1.34, 5.80)	(-0.04, 6.02)	(-2.94, 3.49)
Bipolar:	1.47	0.02	1.67	1.43
(No) – (Yes)	(-0.63, 3.57)	(-3.14, 3.18)	(-1.44, 4.79)	(-2.20, 5.05)
Schizophrenia:	-2.01	-2.68	-3.73	1.28
(No) – (Yes)	(-4.38, 0.35)	(-7.00, 1.65)	(-7.61, 0.17)	(-3.17, 5.74)
Suicidal thoughts – ever:	1.02	0.71	1.34	-0.20
(No) – (Yes)	(-1.64, 3.68)	(-3.28, 4.70)	(-3.16, 5.84)	(-4.89, 4.48)
Suicidal thoughts –past year:	0.34	0.71	0.11	-0.20
(No) – (Yes)	(-1.81, 2.49)	(-2.74, 4.15)	(-2.99, 3.22)	(-2.80, 2.40)
Suicide attempt – ever:	-0.11	-0.46	-0.13	-0.46
(No) – (Yes)	(-1.93, 1.72)	(-3.17, 2.25)	(-2.86, 2.59)	(-3.19, 2.27)
Suicide attempt – past year:	-1.96	-4.18*	-1.14	-1.07
(No) – (Yes)	(-4.81, 0.90)	(-8.36, -0.01)	(-5.34, 3.05)	(-5.62, 3.48)
Mental health hospitalization:	-0.60	-1.33	-1.52	0.46
(No) – (Yes)	(-2.36, 1.15)	(-4.04, 1.37)	(-4.05, 1.01)	(-2.25, 3.16)
Hx aggressive behavior:	2.93	3.33	3.40	2.06
(No) – (Yes)	(1.18, 4.69)	(-1.25, 7.91)	(-0.83, 7.62)	(-1.85, 5.97)

Table 2. continued

	Total sample N=163	Cycle 1 N=53	Cycle 2 N=55	Cycle 3 N=55
On HCV Start Group:	-2.26*	-3.60*	-2.91	0.44
(No) – (Yes)	(-4.25, -0.27)	(-6.73, -0.47)	(-6.85, 1.03)	(-3.98, 4.87)
Start HCV During Group:	-3.22*	-4.28	-3.23	-3.56
(No) – (Yes)	(-4.77, -1.67)	(-10.91, 2.35)	(-10.32, 3.87)	(-7.53, 0.41)

Difference in mean number of sessions attended across binary demographic, health status, substance use, and mental health indicators.We denote statistically significant differences (at the level of ≤ 0.05) in the mean number of sessions attended using the * symbol. Below the point estimate, we report the associated 95% CI of the mean difference.n.b. In total sample (N = 163), some clients appear 1, 2, or 3 times depending on the number of cycles they enroll in. To account for this correlated data situation, we estimate association between covariates and number of sessions attended using a generalized estimating equation (GEE) model—with compound symmetric working correlation structure.

Table 3. Group Outcomes & Processes

	Total sample Max N=163	Cycle 1 Max N=53	Cycle 2 Max N=55	Cycle 3 Max N=55
GAD-7:	-0.42	2.46*	-1.29	-2.37
(Week 16 GAD) – (Week 1 GAD)	(-1.63, 0.68)	(0.84, 4.08)	(-2.84, 0.26)	(-4.20, -0.53)
PHQ=9:	-0.30	1.77*	-1.29	-1.55
(Week 16 GAD) – (Week 1 GAD)	(-1.62, 1.00)	(0.10, 3.44)	(-3.70, 1.12)	(-3.40, 0.30)
Empathy:	0.38	-0.19	0.76	0.54
(Week 16 Cohesion) – (Week 4 Cohesion)	(-0.51, 1.38)	(-1.80, 1.42)	(-0.84, 2.36)	(-0.77, 1.86)
Cohesion:	2.57*	1.50	3.60	2.63*
(Week 16 Empathy) – (Week 4 Empathy)	(1.03, 4.11)	(-0.80, 3.80)	(-0.16, 7.36)	(0.50, 4.75)

Differences in mean group outcome and process measures between the end of the cycle and the beginning of the cycle.We denote statistically significant differences in the group outcome and process measures using the * symbol. Below the point estimate, we report the associated 95% CI of the mean difference.n. b. In total sample (N = 163), some clients appear 1, 2, or 3 times depending on the number of cycles they enroll in. To account for this correlated data situation, we estimate association between covariates and group outcome and process difference scores (end of cycle minus beginning of cycle) using a generalized estimating equation (GEE) model—with compound symmetric working correlation structure.

significant increase in PHQ scores was observed ($p = 0.0374$), but there were otherwise no measurable effects. Other cycles also indicate a trend toward lower depression scores but without measurable effects.

The mean empathy score (measuring therapeutic alliance) at Week 4 for the overall study sample was 12.63 (SD = 3.53; range = -2–15) and at week 16 was 13.01 (SD = 3.69; range = -3–15), but this difference did not reach statistical significance. The average change in cohesion scores between exit and entry from all group cycles for the total sample improved significantly ($p = 0.0011$). At Week 4, the mean group cohesion score was 53.16 (SD = 7.32; range = 31–63) and at week 16 was 55.73 (SD = 7.46; range = 31–63). In cycle 3, the increase in mean difference in cohesion scores was also statistically significant ($p = 0.0153$).

DISCUSSION

The primary focus of our study was to investigate client engagement in a psychoeducational group for marginalized individuals with chronic HCV. Participants in the TCHCP groups had complex health and social issues including poverty, substance use, serious mental health concerns, and histories of aggressive behavior. While clinical guidelines for group psychotherapy suggest that individuals who "manifest extremes of anger and hostility, social inhibition, substance abuse ... generally do poorly in group psychotherapy" (Bernard et al., 2008), our study demonstrates that with the appropriate model these individuals can engage productively in group psychotherapy. Although our data revealed few significant differences between group baseline and final scores, cohesion and therapeutic alliance, which are important predictors of positive therapeutic outcomes, were high across all cycles.

The overall mean attendance (11.76 out of 19) was higher than might be expected for this population, and our non-attendance rate (19.8%) was relatively low compared with the 30–40% non-attendance rate cited for group therapy in general (Yalom & Leszcz, 2005). We consider these findings to be a reflection of the deeply held program commitment to include marginalized individuals in health care. The values of patient engagement and non-judgment run throughout the program, and group engagement is supported by client encounters, both clinical

and informal, with interdisciplinary team members outside of the group and with all aspects of the HCV treatment experience.

Moreover, our non-attendance rate does not account for those individuals who had completed a previous group cycle (or cycles) but dropped out during one of the study cycles. Many members are unable to attend group for serious reasons beyond their control, including incarceration, loss of housing, or health issues other than HCV. Because of the program's open door return policy, many participants who drop out return for another group cycle months or years later. Thus, the level of engagement that these patients manifest may not be reflected in the non-attendance score.

Our finding that people with a history of depression, younger participants, active substance users, and those with a history of aggressive behavior attended fewer group sessions is consistent with previous studies. Although depression itself is not a predictor of dropout, previous research suggests that people with depression are less likely to remain in group therapy (Bernard et al., 2008; Yalom & Leszcz, 2005). A meta-analysis of premature discontinuation from all forms of psychotherapy also found that higher dropout rates were associated with younger samples (Swift & Greenberg, 2012).

For direct and indirect reasons, it is understandable that active substance users would attend fewer sessions. They may have been too sick to attend group because of other health issues or due to substance use withdrawal. Some may also have been incarcerated during the group. Still, this study suggests that many were able to prioritize the group and modify their substance use (where necessary) to attend more than half of the sessions. Our finding that participants with a history of aggressive behavior attended fewer sessions is not surprising. Many of these individuals likely also have a history of being required to attend groups in the past (i.e., for anger management and/or in jail). A lengthier period of engagement for these individuals may be required in order to overcome past negative experiences with mandatory groups.

Group members' depression and anxiety symptoms show a trend toward improvement in the majority of cycles studied. The increased anxiety and depression scores reported for the first group cycle may reflect a natural period of regression, which occurs during most groups. It may also reflect the burden of psychosocial issues faced by group participants, as well as ongoing trauma and grief due to the deaths of

four group members during the study period. Group composition as well as a change in one of the facilitators early in the study may also have contributed. It is also possible that this finding in the first group cycle may be secondary to the stage of liver disease or for patients undergoing treatment with interferon-alpha therapy (Sockalingam & Abbey, 2009). Our study was not powered enough to look at this variable in detail. The depression experienced by HCV–infected individuals is impacted not only by the biological expression of HCV, but by its accompanying psychosocial burden (Erim et al., 2010). Even non-significant reductions in cycles two and three suggest that the psychosocial support of the group may have tempered more serious depression.

Group cohesion improved significantly for the total sample and was high in all three group cycles. In addition, our group cohesion scores were equivalent to, or higher than, norms for other psychotherapy groups with fewer comorbidities and higher socioeconomic status (Macnair-Semands & Lese, 2000). Research on group therapy efficacy has found that strong group cohesion is a key component in successful groups and has a linear and positive relationship with clinical improvement (Bernard et al., 2008; Norcross & Wampold, 2011; Tschuschke & Dies, 1994). Empathy scores were likewise very high overall, reflecting a strong therapeutic alliance, which has also been identified as one of the most important predictors of positive outcomes in all forms of psychotherapy (Bernard et al., 2008; Norcross & Wampold, 2011). The early reports (Week 4) of both high cohesion and empathy in our study are likely a reflection of early expectations conveyed by the facilitators regarding group solidarity and the community development orientation of the program. This may also reflect the program design, which allows clients to attend multiple group cycles.

Limitations

There are several limitations to the interpretability of these results. The small sample size limited our power to detect small but still clinically meaningful effects. In addition, our sample contained a large degree of repeat participant overlap, which is not possible to resolve without changing the structure of the group intervention. Another limitation is that participants are exposed to many components of intervention within the program, beyond group support, and

it is difficult to distinguish what may be contributing to any observed effects. Although anecdotal evidence suggests it is not a factor, the influence of providing an honorarium on attendance has not been ruled out. Further, our measures were implemented at distinct time intervals, and a more granular session-by-session measurement of group outcomes could have yielded additional data. Our study was also not designed to look at the impact of group on health care outcomes. However, a qualitative paper about the experience of people in the program suggests that the group plays a pivotal role in health care engagement (Woolhouse et al., 2013).

CONCLUSION

This study provides evidence that individuals who are typically excluded from group therapy can engage meaningfully in a group model of support. It proposes that, despite a low threshold intake process and less stringent inclusion criteria, successful group therapeutic processes can be achieved for marginalized individuals with medical and psychosocial comorbidities. Ongoing commitment and attention by the group facilitators and broader program model context help to overcome some of the barriers to engagement in group therapy and health care at individual, provider, and systems levels. In addition to successful engagement in group therapy itself, the group component of the TCHCP provides the support and stability needed to help people to access HCV treatment. We believe it could be a useful model for health care engagement for other marginalized groups and for other health issues. The improvement trends in cycles two and three, though not statistically significant, provide encouraging preliminary evidence that warrants further examination of the variables that impact group engagement and outcomes for marginalized populations.

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