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Presence of drug-free family and friends in the personal social networks of people receiving treatment for opioid use disorder

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Abstract

The present study evaluated the presence of drug-free family and friends in the personal social networks of individuals seeking treatment for opioid use disorder, and the willingness of patients to bring these individuals to the treatment program to support recovery efforts. Patients at a community medication-assisted treatment program (n = 355) completed a clinical survey to identify drug-free social network members. Results showed that almost all patients (98%) reported having at least one drug-free family or friend in their personal network ($M = 3.7$), and that these network members often lived in relatively close proximity to the patient (M distance of closest member = 1.8 miles). About a quarter of these individuals (26%) had a history of substance use problems, with 10% of the entire sample currently receiving treatment for a substance use problem. Rates of drug-free network members varied across several baseline characteristics. Most patients (89%) reported a willingness to invite at least one drug-free network member into treatment to support recovery efforts. Mobilizing drug-free network family and friends may provide a pathway to help individuals with substance use disorders access and benefit from community support.

Keywords

Opioid use; social support; social network; substance use disorder treatment

1.0 Introduction

The personal social networks of individuals with substance use disorders exert a strong impact on drug use behaviors and recovery efforts (De, Cox, Bolvin, Platt, & Jolly, 2007; Latkin, German, Vlahov, & Galea, 2013; Lloyd et al., 2008). Research with individuals in urban areas who use substances has found that these networks typically consist of 4–6 other people using alcohol or other drugs (Buchanan & Latkin, 2008; Latkin et al., 1995).

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Interviews with individuals with substance use disorder have demonstrated that the size and density of personal networks (i.e., relationships among people that use illicit drugs within a personal network) are strongly and positively associated with rates of drug use, risk of overdose, and drug use and sexual HIV risk behaviors (Bohnert, Bradshaw, & Latkin, 2009; De et al., 2007; Tobin, Hua, Costenbader, & Latkin, 2007). For those receiving substance use disorder treatment, consistent interaction with network members that are using alcohol or illicit drugs is strongly associated with a much poorer treatment prognosis (Brewer, Catalano, Haggerty, Gainey, & Fleming, 1998; Day et al., 2013; Stout, Kelly, Magill, & Pagano, 2012).

What may be surprising about this is that these urban social networks also include individuals that are drug-free and capable of supporting abstinence. Latkin et al. (1995), for example, showed that about half ($n = 5$ people) of the social networks of individuals that are using illicit substances include other people that are not part of the “drug network,” and that this subset often included a mother and other family members. Using a different urban sample, Buchanan and Latkin (2008) found that people using illicit substances had about five drug-free network members, and that those who ultimately stopped using drugs reported more network members that were drug-free and less network members that were using illicit substances. These studies, however, characterized only the number and relationship status of drug-free network members (e.g., family, partner, friend), and did not report on other characteristics that might help determine their interest and value in supporting recovery and related harm reduction efforts.

The presence of drug-free family members and friends in these networks and environments provides a wealth of seemingly underutilized social support. Social support is defined as the actual or perceived assistance that is available from others (Cohen & Wills, 1985). It can emerge from natural (friends and family networks) or formal systems (e.g., mutual-help groups), and be categorized by level or type of support (e.g., emotional, recovery-oriented). In many urban communities, family and other social network members are important sources of social support and caregiving for impoverished people with substance use disorder who have few economic resources. Bohnert, German, Knowlton, and Latkin (2010), for example, used a latent class analysis to identify five types of natural support for people in urban environments that are using illicit substances: 1) little/no support; 2) low/moderate support, 3) high support, 4) socialization support, and 5) financial support. Those providing the most functional support (low/moderate, high, financial) were less likely to use heroin or cocaine and were more highly trusted.

We know little about the drug-free individuals that populate the personal social networks of people seeking substance use disorder treatment, or if these individuals are perceived by patients as interested in and willing to assist recovery efforts. The potential clinical benefits of identifying and mobilizing this type of social support can be derived from a general literature showing strong relationships between social support and a range of good mental and physical health outcomes (Hogan et al., 2002; Lakey & Orehek, 2011). Within samples of individuals seeking treatment for substance use disorder, higher levels of natural social support are positively associated with more favorable drug use outcomes (e.g., Brewer et al., 1998; Warren, Stein, & Grella, 2007; Wasserman, Stewart, & Delucchi, 2001). And for those

attending mutual-help groups, improved outcomes are associated with scope of abstinence-focused support (e.g., Kaskutas et al., 2002; Kelly et al., 2011; Kelly, Hoepner, Stout, & Pagano, 2012; Stout et al., 2012). The activation of drug-free network support may be particularly beneficial to women, who are more likely than men to rely on social support to manage daily problems and emotional distress (see Tamres, Janicki, & Helgeson, 2002, for a review).

The present descriptive study extends previous research by reporting on the scope of drug-free individuals in the social networks of people seeking treatment for opioid use disorder, and some characteristics that might affect the ability of these network members to provide recovery-oriented social support. The study also reports on the extent to which patients are willing to ask these individuals to participate in the treatment program to support recovery efforts. We hypothesized that most patients would identify drug-free family and friends in their social networks and be willing to include some of them in treatment to support recovery goals.

2.0 Methods

2.1 Participants

Study participants were 355 outpatients with opioid dependence enrolled at the Addiction Treatment Services (ATS) program in Baltimore Maryland. All data in this report were obtained by a clinical chart review conducted between July 2014 and December 2014 as part of a quality assurance and performance improvement plan to review patient responses to a questionnaire designed to assess sources of drug-free community support. The chart review was conducted for all current patients and information used for this evaluation was recoded to eliminate all links to individual patient identifiers. Because a small number of patients (about 30–35) chose not to complete the questionnaire or left the treatment program against medical advice prior to completing it, the study sample represents about 90% of patients in the treatment program during this 6-month time frame. The Johns Hopkins University Institutional Review Board (IRB) approved the study and granted a waiver of participant consent.

2.2 Clinical setting

ATS is a community-based treatment program located on the campus of the Johns Hopkins Bayview Medical Center. At the time of the study, the program maintained a census of about 350 opioid-dependent patients receiving opioid-agonist medication. Counselors in the program have a bachelor's or master's degree in the behavioral sciences and are licensed or certified as a professional counselor by the State of Maryland. The program employed eight counselors during this time period and each maintained caseloads of about 40–45 patients. The treatment program utilizes an adaptive treatment model to guide treatment planning and match the intensity of the counseling schedule to objective indicators of clinical response, increasing the intensity for patients with a poor or partial response and decreasing the intensity of services in those with good attendance and drug-negative urine specimens (Brooner et al., 2007; Kidorf et al., 2006).

2.3 Clinical assessment

The lead author developed the Community Support Worksheet (see Appendix) based on clinical experience and a review of related questionnaires reported in the literature (e.g., Zywiak et al, 2009) to assist counseling staff in identifying the presence of drug-free family and friends in the personal social networks of patients. The Community Support Worksheet contains two sections. The first section asks patients to identify adult drug-free family and friends in their social network, defined as people in their community that are important to them (Zywiak et al., 2009). A steady partner was defined as a person involved in a sustained intimate (sexual) relationship with the patient. Individuals were considered drug-free if the patient said they: 1) had not used illicit drugs for the past 6-months, and 2) did not have current alcohol-related problems. For each identified drug-free friend or family, patients reported: 1) age, 2) length of relationship, 3) location of residence, 4) current substance abuse treatment (y/n), 5) history of substance use problems (y/n), 6) history of support in the patient's treatment of substance use problems. This last variable includes either formal or informal (unstructured) social support offered within or outside of the treatment setting. Patients were also asked to consider their willingness to invite the network members to the treatment program to support recovery efforts. The second section of the Community Support Worksheet assessed potential pathways for patients and their community support persons to further expand the scope and/or intensity of abstinence-oriented social support. Data from this section are secondary to the main focus of the study and will be reported elsewhere.

2.4 Procedure

Counseling staff administered the Community Support Worksheet as an interview to patients during routine counseling sessions. All patients were asked to complete the questionnaire. Counselors received training on the questionnaire by the first author during group supervision.

2.5 Data Analysis

Descriptive statistics were used to characterize presence and characteristics of drug-free network members. Missing data was ordinarily resolved by re-interviewing the patient. The few remaining cases of missing data were left blank. Examination of the distribution of the number of drug-free network members per participant suggested over-dispersion. An appropriate regression model for count data in the presence of over-dispersion is negative binomial regression. An exploratory analysis used negative binomial regression to evaluate associations between each baseline variable (age, gender, race, intimate partner, employment status, recent illicit drug use (yes or no), length of time at ATS) and the count of the number of drug-free network members per participant, controlling for all other variables in the model. Results are reported as Incidence Rate Ratios (IRR) and Wald 95% Confidence Intervals (CI).

3.0 Results

3.1. Patient demographics

Demographic characteristics of the treatment sample are as follows: $\bar{M}$ age = 47.4 ($SD = 12.5$); 49% male; 35% African-American, 65% Caucasian; 53% employed; and 55% reported having an intimate partner. Patients were generally self-referred; 16.5% were referred from the Baltimore Community Needle Exchange Program (BNEP). Patients had been in the ATS treatment program for a $\bar{M} = 6.9$ years ($SD = 8.3$) when they completed the worksheet. Nine percent of the patients were currently receiving treatment services on a more intensive schedule consequent to testing positive for one or more illicit substance in the past month (opioid, cocaine, sedatives, cannabis).

3.2 Presence of drug-free network members

Almost all patients (98%) reported at least one drug-free family or friend in their social network ($\bar{M} = 3.7$; $SD = 2.0$; median = 3.0), and 87% reported more than one. The percent of patients reporting each category of support is as follows: friend, 55%; sibling, 52%; partner, 44%; adult children, 40%; mother, 39%; other relative, 29%; father, 18%. Most patients (89%) reported at least one network member that they were willing to invite to the treatment program to support recovery efforts, and many patients (68%) reported more than one person ($\bar{M} = 2.6$; $SD = 1.8$; median = 2.0).

3.3 Characteristics of drug-free network members

Table 1 displays the characteristics of the 1,308 drug-free family and friends in the personal social networks of this sample of patients ($n = 355$). These individuals were generally well-known by ($\bar{M} = 31.7$ years; $SD = 16.5$) and lived in reasonably close proximity to the patient ($\bar{M} = 8.3$ miles; $SD = 10.5$); the closest drug-free network member for each patient lived a $\bar{M} = 1.8$ ($SD = 5.2$) miles away. Twenty-six percent ($n=337$) of these drug-abstinent social network people had a history of substance use problems; 39% ($n=131$) of them were currently receiving treatment (i.e., 10% of the entire social network sample).

These data also suggest that the categories of friends and siblings are the ones most likely to be reported in the social networks of these patients. Mothers were the least likely of these network members to have a history of substance use problems or to be currently participating in treatment for a substance use disorder. Partners appeared to be most likely to have provided some type of social support during previous treatment efforts. With the exception of adult children, at least 60% of each category of network member was determined by patients to be someone they would consider including in treatment to support recovery efforts.

3.4 Individual differences

Negative binomial regression analyses showed that African-American patients ($IRR = 0.285$; $CI = 0.140, 0.365$; $p < .001$), female patients ($IRR = 0.170$; $CI = 0.038, 0.258$; $p = 0.009$), patients with an intimate partner ($IRR = 0.194$; $CI = 0.004, 0.229$; $p = .042$), and patients with a longer treatment duration ($IRR = 0.008$; $CI = 0.001, 0.014$; $p = .032$) reported more drug-free family and friends.

4.0 Discussion

The present report provides the first known evaluation and categorization of drug-free individuals in the social networks of treatment-seeking people with moderate or severe opioid use disorder. Almost all patients reported at least one drug-free family member or friend in their personal social network. The average of 3.7 drug-free network members in this sample of patients is somewhat less than what has been reported in public health surveys of largely out-of-treatment individuals using illicit substances ($n = 5.0$; Buchanan & Latkin, 2008; Latkin et al., 1995). Aside from the major sample differences on substance use disorder treatment status between those samples and the present study (all were in treatment for opioid use disorder), this difference in number of drug-free network members may reflect dissimilar criteria for defining the drug-free status of network members. Buchanan and Latkin (2008), for example, required 6-months of abstinence from heroin and cocaine for a network member to be considered drug-free, while the present study required 6-months of abstinence from all drugs and no problem drinking. Previous studies also used samples with a higher proportion of African-Americans. In the present study, African-American patients reported a higher rate of drug-free network members than Caucasian patients. Most patients (89%) reported a willingness to include at least one network member in treatment to support recovery goals. That these drug-free network members generally lived in close proximity, and included family members and friends known to the patient for many years, may improve the likelihood that they would agree to participate in the treatment process.

While many substance use disorder treatment programs routinely direct patients to stay away from “people, places, and things”, asking patients to discontinue activity with other people that are using drugs is only part of the overall therapeutic process and plan. The present study suggests that the use of a brief social network survey can provide some guidance to treatment providers and patients for identifying and pursuing healthier social contacts and occupying time that was previously allotted to drug-related activities and people. Spending more time with drug-free network members would provide opportunities to enhance recovery-oriented support, which would likely have a positive impact on treatment outcomes and functioning (e.g., Stout et al., 2012; Warren et al., 2007). It might also produce new advocates for treatment and recovery, and help reduce stigmas associated with substance use disorder and its treatment.

Studies with people seeking treatment for substance use disorder that have evaluated the benefits of incorporating drug-free support have focused primarily on partner or family therapies. While these interventions are often effective in reducing substance use and improving relationships, they usually require specialized training and skills that are rarely available in the routine counseling staff in many community-based substance use disorder treatment settings (see O’Farrell & Clements, 2012, and Stanton & Standish, 1997, for reviews). An added problem with that approach raised by the present study is that most of the patients in the our sample reported that their intimate partners were also using illicit drugs. This aspect to those relationships would impact the intervention and potentially limit the feasibility and efficacy of couples-based interventions with this population.

An alternative approach adapted within the ATS program builds on community reinforcement and network therapy approaches (Galanter, 1993) and works with patients and their drug-free support persons to facilitate involvement in formal community activities, including mutual-help groups and religious services (Kidorf et al., 1997, 2005). It is possible that the help offered by these community supporters might also be enhanced by the systematic use of mobile phones and smartphone applications to facilitate verbal encouragement, to monitor adherence to the intervention, and to coordinate participation in recovery-oriented social activities (e.g., Milward, Day, Wadsworth, Strang, & Lynskey, 2015). Involvement with formal support networks over time has the potential to expand natural support systems. Future research might evaluate how changes in the balance of drug-free and drug-using network members might affect response to substance use disorder treatment.

Exploratory analyses showed that African-Americans, women, and those with an intimate partner had a larger selection of drug-free network members from which to choose. Activation of drug-free network support could buffer some of the unique social and environmental stressors experienced by African-Americans and women (e.g., Blankenship, Reinhard, Sherman, & El-Bassel, 2015; Crawford et al., 2014). At the very least, formal inclusion of drug-free family and friends for these and other populations might provide more consistent and stable social support for recovery, a variable consistently associated with improved treatment outcomes (e.g., Longabaugh, Wirtz, Zywiak, & O'Malley, 2010; Warren et al., 2007).

The most important limitation of this report is use of a clinic-based questionnaire without previously established psychometric properties. While more detailed and validated assessments of social network members are available (e.g., Zywiak et al., 2009), they are considerably more time-consuming and potentially less acceptable to patients and treatment providers. Despite this important limitation, the present questionnaire yielded an orderly set of data that is consistent with other questionnaires and supports both the feasibility and acceptability of identifying and mobilizing drug-free people to support the recovery of patients in opioid agonist treatment settings. These are traditionally underutilized resources in community treatment programs that can make many valuable contributions to a person's recovery.

The present findings are also limited to one medication-assisted treatment program in Baltimore that has created a clinical milieu that routinely encourages and reinforces the willingness of patients to consider and report available drug-free social support. Further, the small sample of patients choosing to not complete the survey ($n = 30 - 35$) may have endorsed fewer drug-free support people than those completing the survey. And lastly, the questionnaire provides no data on whether individuals identified by patients are actually drug-free or willing to participate in the treatment process, and whether their inclusion would have any effect on treatment goals or outcomes. Based on available data showing the benefits of social support to recovery (Brewer et al., 1998; Warren et al., 2007; Wasserman et al., 2001), it is reasonable to expect that increased interaction with people that are not using illicit substances will produce better treatment outcomes, but this remains a largely unanswered empirical question. That so many patients readily identified drug-free people in

their social networks that might participate in treatment is encouraging. Taken together, these findings may stimulate some clinicians and researchers to consider the identification and mobilization of drug-free family members and friends to extend therapeutic reach and improve treatment outcomes for people with opioid and other substance use disorders.

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Appendix

COMMUNITY SUPPORT PERSON (CSP) WORKSHEET

Name: _____ Age: _____ Sex: _____ Race: _____ Date: _____ ATS Start Date: _____ Counselor: _____

Gender: M / F	Ever Employed: Yes / No	Currently Employed: Yes / No	Syringe Exchange: Yes / No	Steady Partner: Yes / No	Partner Drug-free: Yes / No
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Approx # of family/relatives in Ball area (including drug-using): _____ ; Approx # of friends in Ball area (including drug-using): _____

Local Adult Drug-Free Family and Friends Table (pass drug-test; prescriptions ok; no alcohol problems; < 50 miles)

First Name	Relation	Age	Years known	Distance from pt (miles)	Current Sub Abuse Tx (y/n)	Hr of Sub Abuse (y/n)	Besides ATS, Ever part of pts tx? (y/n)	Possible CSP? (y/n)
Immediate Family (e.g., partner, children)								
Family of Origin (e.g., parents, step-parents, siblings)								
Other Relatives								
Friends								

Self-help Group Participation

a. Number of NAIAA meetings attended (past 30 days): _____

b. Approximate number of NAIAA meetings attended (lifetime): _____

c. Did you ever work the steps? Yes No

d. Did you ever have a sponsor? Yes No

e. Interested in attending NAIAA in the future? Yes No (if no, why not: circle all that apply)

Not helpful Against Methadone Philosophy Other: _____

Religious Services Participation

a. Number of days of religious service attendance (past 30 days): _____

b. Number of days of other religious service activity (e.g., Bible study) (past 30 days): _____

c. Did you attend religious services regularly as a child? Yes No

d. Did you ever attend religious services regularly as an adult? Yes No

e. Interested in attending religious services regularly in the future? Yes No

Possibly interested in work or other drug-free social activities in future (circle all that apply)

a. paid work b. adult education c. volunteer work d. sports/rec e. other: _____

HIGHLIGHTS

- we evaluated the presence of drug-free family and friends in the personal social networks of opioid users (n=355)
- almost all patients (98%) reported at least one drug-free network member (M = 3.7)
- most patients (89%) identified a network member to assist recovery efforts
- activating drug-free family and friends provides a potential pathway to help people with substance use disorder access and benefit from community support

Table 1

Characteristics of Drug-Free Social Network Members (n=1308)¹

Category of Drug-free Network Members	%	Distance From Patient	Years Known Patient	Hx of Substance Abuse Problems	Current SA Treatment ²	Previously Supportive ³	Potential CSP? ⁴
		<u>M</u> (SD)	<u>M</u> (SD)	%	%	%	%
Overall							
Any member (n=1308)	--	8.3 (10.5)	31.7 (16.5)	25.8%	9.9%	23.0%	69.8%
Immediate Family							
Partner (n=157)	12.0%	1.3 (4.8)	20.0 (13.2)	38.2%	26.1%	40.5%	76.4%
Adult children (n=212)	16.2%	6.5 (8.8)	30.0 (8.1)	14.2%	6.1%	17.5%	49.1%
Family of Origin							
Mother (n=137)	10.5%	8.1 (10.9)	41.7 (11.7)	8.8%	1.5%	30.8%	78.1%
Father (n=62)	4.7%	12.5 (13.1)	39.1 (11.6)	35.5%	9.7%	16.9%	59.7%
Sibling (n=276)	21.1%	12.6 (13.2)	46.0 (12.0)	27.5%	6.9%	19.5%	67.8%
Other Members							
Other Relatives ⁵ (n=162)	12.4%	9.6 (10.0)	34.5 (14.6)	16.7%	3.7%	29.7%	77.8%
Friends (n=302)	23.1%	7.7 (8.0)	18.2 (14.3)	36.4%	14.2%	15.4%	76.8%

¹ As reported by Addiction Treatment Service patients (n=355)

² Currently in treatment for substance use problems

³ Social support offered within or outside the treatment setting

⁴ CSP: Community Support Person that patient is willing to include in treatment to support recovery efforts

⁵ Includes step-parents