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The clinician–patient working alliance: Is it a significant predictor of psychiatric medication adherence in a sample of recently released parolees?

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Abstract

Persistent psychiatric symptoms can serve as a major barrier to the successful reintegration of parolees with mental illness. Thus, it is important to identify factors that might impact their mental health recovery, such as low adherence to their treatment regimen. Although many studies have examined the issue of psychiatric medication nonadherence, very few studies have focused specifically on justice-involved individuals. The strength of the clinician/patient working alliance has been found to be significantly associated with psychiatric medication adherence in prior research, but this relationship has not been assessed in a parolee population. Logistic regression analysis was used to determine if patient-rated working alliance was a significant predictor of low psychiatric medication adherence while taking into account alcohol/illegal drug use, age, and ethnicity in a sample of recently released parolees with mental illness (N=49). Patient-rated working alliance, age, and ethnicity were not significant predictors of low adherence. Alcohol/illegal drug use during the follow-up period was associated with a significantly increased likelihood of meeting the criteria for low medication adherence (OR=8.36; 95% CI=1.60, 43.66). The findings from this study highlight the importance of addressing alcohol and illegal drug use issues as part of the psychiatric treatment plan for returning prisoners with mental illness.

Keywords

Medication adherence; psychiatric medication; parolees; working alliance; substance use

Introduction

The reentry process can be a very stressful time for former prisoners as they attempt to readjust to life in the community (Western, Braga, Davis, & Sirois, 2015). Former prisoners in general experience many challenges in finding employment and stable housing after being released, with these challenges being substantially more pronounced among those with mental illness (Malik-Kane & Visser, 2008; Western et al., 2015). While the stigma associated with having both a mental illness and a criminal record can pose barriers to conventional opportunities in employment (Batastini, Bolaños, Morgan, & Mitchell, 2017),

experiencing symptoms of a psychiatric disorder can make it even more difficult for returning prisoners to find stable employment as well as meet the conditions of their parole (Baillargeon et al., 2009; Baron & Salzer, 2002). Thus, it is vital that returning prisoners with mental illness receive the treatment they need in the community to address their mental health problems and any medication adherence issues in order to improve their chances of successfully reintegrating back into society.

Despite the substantial amount of research examining the issue of psychiatric medication nonadherence, our knowledge about why justice-involved individuals do not adhere to their psychiatric medications as prescribed is still very limited, especially among those under community supervision (Shelton, Ehret, Wakai, Kapetanovic, & Moran, 2010). The few studies that have examined psychiatric medication adherence among a justice-involved population have mainly focused on prisoners, with only one study focusing on parolees (Baillargeon, 2000; Gray, Bressington, Lathlean, & Mills, 2008; Shelton et al., 2010). Specifically, Farabee, Shen, and Sanchez (2004) assessed whether perceived coercion, the type of antipsychotic prescribed, and the presence of a capable guardian responsible for making sure the parolee took his or her medicine as prescribed were significant predictors of medication adherence in a sample of 150 parolees receiving psychiatric treatment at a parole outpatient clinic. The findings showed that having a prescription for an atypical antipsychotic and having a capable guardian significantly increased the likelihood that the participant would test positive for their prescribed medication at follow-up. Additionally, the authors found that African Americans patients were significantly less likely than patients from other ethnic groups to test positive for their prescribed medication and that younger patients were significantly less likely than older patients to test positive for their prescribed medication. While the findings from this study showed that having a capable guardian can have a significant impact on psychiatric medication adherence following release from prison, only 41% of the participants reported having someone who could help make sure they took their medications as prescribed. Considering that a substantial number of parolees with mental illness are homeless and/or do not have someone in their home setting to help them adhere to their treatment regimen, it is essential to examine how other relationships can influence psychiatric medication-taking behaviors.

A number of studies have shown a clear association between a clinician's working or therapeutic alliance with their patient and medication adherence with stronger clinician/patient alliances associated with higher levels of medication adherence (García et al., 2016; McCabe et al., 2012; Montreuil et al., 2012; Zilcha-Mano, Dinger, McCarthy, & Barber, 2014). Working alliance has been characterized as consisting of three main components: patient and clinician agreement on treatment goals, patient and clinician agreement on the tasks needed to achieve the treatment goals, and the bond between the client and clinician (Horvath & Luborsky, 1993). In the absence of a capable guardian in the home setting, clinicians who form a strong working alliance with their justice-involved patients may serve as a catalyst for ensuring that their patients adhere to their treatment regimen in the community.

While a number of studies have documented the link between working alliance and clinical outcomes, it is unclear whether this is a causal relationship. Furthermore, several studies

have found a reciprocal relationship between working alliance and clinical outcomes (Falkenström, Granström, & Holmqvist, 2014; Hicks, Deane, & Crowe, 2012; Webb et al., 2011). However, working alliance is not always a significant predictor of clinical outcomes, suggesting that this relationship may vary depending on the patient population (Hendriksen, Peen, Van, Barber, & Dekker, 2014). Findings from a recent meta-analysis suggest that the working alliance-outcome relationship is weaker among patients with substance use problems when compared to patients without substance use problems (Flückiger et al., 2013). Additionally, substance misuse has been found to negatively impact medication adherence in several studies (Czobor et al., 2015; García et al., 2016; Magura, Mateu, Rosenblum, Matusow, & Fong, 2014; Olfson et al., 2000). Due to the variability in findings across studies, several researchers stress the importance of including contributing and/or confounding factors in the analyses when assessing the working alliance-clinical outcome relationship (Doran, 2016; Flückiger et al., 2013). Since a substantial number of justice-involved individuals with mental illness have a co-occurring substance use disorder (James & Glaze, 2006; Peters, Young, Rojas, & Gorey, 2017), it is important to take into account any substance use outside of their prescribed treatment regimen when examining the working alliance-outcome relationship in justice-involved populations receiving mental health treatment.

Current Study

The main purpose of this study was to determine if the patient-rated working alliance is a significant predictor of low psychiatric medication adherence in a sample of recently released parolees with mental illness when taking into account substance use (alcohol and illegal drug use), and demographic factors (i.e., age and ethnicity) found to be significantly associated with medication adherence in previous research with this population. It was hypothesized that a higher working alliance score would be significantly associated with a decreased likelihood of being classified as having low psychiatric medication adherence at the follow-up assessment.

Methods

Participants

This study was a secondary analysis of a randomized clinical trial that compared telepsychiatry to standard in-person psychiatric services in a sample of parolees with mental illness (for a full description of the main study, see Farabee, Calhoun, & Veliz, 2016). Participants in this study were recruited from two parole outpatient clinics (POC) in California. All participants referred to receive treatment at the participating POCs during the study period were eligible to participate in the larger study. A total of 104 parolees were randomized into the main study, which represents 92% of the parolees who were invited to be a part of this study. Of those who consented to be randomized, 71 parolees completed a baseline interview, and 60 parolees completed a six-month follow-up interview. Data used in this study came from the baseline and follow-up interviews conducted with parolees who reported that they were taking psychiatric medications during the first six months following release from prison. Of the 54 patients who were taking psychiatric medications during the follow-up period, 5 were excluded because a medication adherence score could not be

calculated for them due to incomplete responses on the scale. This project received institutional review board approval from the University of California, Los Angeles.

Measures

Medication Adherence—Information on medication adherence was collected during the follow-up interview. Medication adherence was measured using the 8-item Morisky Medication Adherence Scale (MMAS-8: Morisky, Ang, Krousel-Wood, & Ward, 2008) and scored using the Morisky Widget.¹ This scale has been extensively used in prior studies as a proxy for medication adherence and has shown concurrent validity among hypertensive patients (Krousel-Wood et al., 2009; Morisky et al., 2008; Morisky & DiMatteo, 2011). The MMAS-8 scores can range from 0–8 and can be categorized into three levels of adherence: high adherence (score =8), medium adherence (score of 6 to <8), and low adherence (Score <6). A dichotomous medication adherence variable was created to identify the participants who met the criteria for low adherence (1 = low adherence, 0= medium/high adherence).

Working Alliance—A continuous working alliance variable from the follow-up interview was used based on the total score calculated from a 7-item version of the Working Alliance Inventory (WAI) developed by Horvath and Greenberg, (1989) and modified by Neale and Rosenheck (1995). The modified version of the WAI was found to be predictive of treatment response in a sample of veterans with serious psychiatric disorders (Neale & Rosenheck, 1995). The alliance items included in the scale used in this study assess the level of trust, agreement on the goals of treatment, confidence in the clinician's abilities, and overall importance of the relationship to the participant. Higher scores on the scale indicate a higher level of patient-clinician alliance.

Alcohol and/or Illegal Use—Information on alcohol and illegal drug use during the previous six months was obtained during the follow-up interview. Alcohol and illegal drug use could not be examined separately due to the small sample size. Therefore, a dichotomous variable was created to indicate whether the participant reported using drugs and/or alcohol (1 = drug/alcohol use, 0 = no drug/alcohol use) during the six-month period following their release from prison.

Demographics—Information on age and race were collected during the baseline interview. Age was recorded in years, and a dichotomous race variable was created and coded as 1 (African American Patients) and 0 (Other Patients).

Data analysis

Analyses included descriptive statistics and a multivariate logistical regression model, where odds ratios with 95% confidence intervals were reported. A descriptive analysis of the sample was carried out on socio-demographic, clinical, and substance use variables. The results were expressed in terms of percentages or means and standard deviation. A multivariate logistical regression model was employed to determine whether working

¹The MMAS (8-item) content, names, and trademarks are protected by US copyright and trademark laws. Permission for use of the scale and its coding is required. A license agreement is available from Donald E. Morisky, ScD, ScM, MSPH, 14725 NE 20th St Bellevue, WA 98007, USA; dmorisky@gmail.com.

alliance was independently associated with meeting the criteria for low adherence during the follow-up period when taking into account substance use, age and ethnicity. The level for statistical significance was set at $p < 0.05$, and SPSS version 24.0 for Windows was used for all statistical analyses.

Results

Characteristics of the Sample

Of the 49 participants included in this study, 67% were male, and 35% were African American. The age of the participants ranged from 19 to 61 years ($M=38.7$, $SD=9.9$). The mean number of days that the participants reported experiencing symptoms of their mental illness during the 6-month follow-up period was 85 days. The average WAI score (where the maximum was 35) for the study participants was 26.8 (Table 1).

Prevalence of alcohol and illegal drug use

As indicated in Table 2, a total of 25 participants reported using alcohol and/or illegal drugs during the 6-month follow-up period. Of those who reported using alcohol and/or illegal drugs, 60% reported alcohol use, 32% marijuana use, 52% methamphetamine use, 4% cocaine use, and 12% heroin use. Approximately 28% reported using multiple drugs (excluding alcohol) during the follow-up period, 24% reporting using both alcohol and illegal drugs, 36% reported only alcohol use, and 40% reported only illegal drug use.

Multivariate regression results

Approximately 71% of the participants met the criteria for low medication adherence at the follow-up assessment. Table 3 presents the results of the multivariate logistic regression analysis. Working alliance was not found to be a significant predictor of low psychiatric medication adherence. Race and age were also not found to be a significant predictor of low psychiatric medication adherence during the follow-up period. Alcohol and/or illegal drug use, however, was found to be significantly associated with low medication adherence ($OR=8.36$; 95% $CI=1.60, 43.66$). Specifically, those who reported using alcohol and/or illegal drugs during the follow-up period had a significantly increased likelihood of being classified as having low adherence.

Discussion

The high number of individuals going in and out of the criminal justice system has resulted in an increased focus on identifying effective programs and policies to improve the reentry process for both offenders with and without mental illness (Turner, 2016). For the case of individuals with mental illness, the primary focus has been on improving their access to mental health treatment while in the community, with the expectation that treating the mental health problem will not only lead to improvements in mental health outcomes but also to criminal justice outcomes (Kennedy-Hendricks, Huskamp, Rutkow, & Barry, 2016; Skeem, Manchak, & Peterson, 2011; Van Dorn, Desmarais, Petrila, Haynes, & Singh, 2013). Pharmacotherapy is the primary method of treatment for psychiatric disorders in most criminal justice systems (Baillargeon, 2000; Gray, Bressington, Lathlean, & Mills, 2008).

While access to psychiatric medications has improved, many justice-involved individuals with mental illness often do not adhere to their medications as prescribed (Shelton, Ehret, Wakai, Kapetanovic, & Moran, 2010). Poor adherence to prescribed psychiatric medication regimens can undermine the effectiveness of the medications (Shelton, Ehret, Wakai, Kapetanovic, & Moran, 2010), resulting in a possible mental illness relapse (Morken, Widen, & Grawe, 2008; Subotnik et al., 2011).

Despite the negative consequences associated with psychiatric medication adherence issues in criminal justice populations, very little research has been done on this topic (Shelton et al., 2010). Furthermore, only one study was identified in the literature that focused specifically on a parolee population where the findings suggest that having a capable guardian in the home to help ensure that medications are being taken can increase psychiatric medication adherence among those under community supervision (Farabee et al., 2004). Since many parolees do not have a guardian who can help them with their medications, the current study builds on the previous work conducted by Farabee and colleagues (2004) by examining whether the working alliance between justice-involved patients and their clinician can also lead to better adherence outcomes when taking into account substance use, age, and ethnicity.

While prior research has found working alliance to be a significant predictor of medication adherence (García et al., 2016; McCabe et al., 2012; Montreuil et al., 2012; Zilcha-Mano et al., 2014), working alliance was not a significant predictor of low adherence in this present study. The small sample size may have made it difficult to detect a significant relationship between working alliance and low medication adherence. However, working alliance is a dynamic process that changes over time (Stiles & Goldsmith, 2010), and patient ratings of working alliance may differ substantially from those of their clinician. So another possible reason for the nonsignificant finding is that the working alliance rating obtained in this study does not accurately reflect the working alliance during the follow-up period because only a single rating of working alliance by the patient was measured. Thus, additional research on the working alliance-psychiatric medication adherence relationship in parolee samples is needed, especially research that incorporates clinician ratings of working alliance and that examines whether working alliance has an impact on subsequent clinical outcomes.

The use of alcohol and illegal drugs during the follow-up period emerged as the only significant predictor of low psychiatric medication adherence in this study, which is consistent with findings from previous research (Czobor et al., 2015; García et al., 2016; Magura et al., 2014; Olfson et al., 2000). While it was not possible to determine why substance use was associated with low psychiatric medication adherence in this study, one possible explanation for this relationship is that alcohol and substance use leads to cognitive impairments that increase the likelihood that a person will forget to take their medications. Another possible explanation may be that some participants turn to alcohol and/or illegal drug use when their psychiatric medications are not effective in eliminating the symptoms of their mental illness.

A few study limitations should be considered when interpreting the findings of this study. The major limitation of this study was the small sample size, which limited the power of the

statistical analyses. Also, since working alliance, substance use, and medication adherence were measured at the same time during the follow-up assessment, it was not possible to determine the temporal ordering of events. Thus, the significant relationship found between substance use and low medication adherence should be regarded as correlational rather than causal. Another limitation is the reliance on self-report data that can be compromised by faulty memory or intentional deception. Lastly, the findings generated by this study are limited to parolees who were referred to receive psychiatric treatment at one of two parole outpatient clinics in California. Thus, the study setting along with the small sample size limits the ability of this sample to represent the larger population of parolees with mental illness.

Despite these limitations, this is the first study to examine the relationship between clinician-patient working alliance and low psychiatric medication among parolees with mental illness, which is a population that has difficulty succeeding in the community. Considering that a substantial proportion of this sample met the criteria for low medication adherence suggests that psychiatric medication nonadherence may be a major issue in this population. Consistent with previous research, the findings showed that alcohol and drug use during the follow-up period was associated with low medication adherence. However, it is not clear why this relationship exists in this population and if there are differences in this relationship based on the type of drug(s) used, frequency of use, and/or psychiatric diagnosis, which should all be examined in future studies. While the patient rating of working alliance was not significantly associated with medication adherence in this study, further research is needed to examine how substance misuse impacts the clinician-patient working alliance in psychiatric settings especially since mental health treatment programs tend to focus on just the psychiatric disorder (Sterling, Chi, & Hinman, 2011). Also, future studies should assess whether other forms of medication support (e.g., daily text message reminders) can help improve medication adherence in this population as well as how caregiver attitudes toward psychiatric treatment influences the clinician/patient relationship and medication adherence. Overall, the findings from this study highlight the importance of addressing any substance use problems among parolees with mental illness as part of the psychiatric treatment program to ensure better adherence to treatment.

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Table 1

Demographic and background characteristics of study participants (N=49)

Variable	% M(SD)
Male	67
Age (Mean)	38.7 (9.9)
African American	35
Days symptomatic (Mean)	84.5 (70.5)
WAI Score (Mean)	26.8 (7.0)

Table 2

Alcohol and illegal drug use information for the participants who reported using during the follow-up period (N=25)

Variable	%
Alcohol	60
Marijuana	32
Methamphetamine	52
Cocaine	4
Heroin	12
Polydrug use (excluding alcohol)	28
Alcohol and drug use	24
Alcohol use only	36
Drug use only	40

Table 3

Multivariate regression results: Odds Ratios Predicting Low Adherence (N=49)

Variables	Odds Ratio	95% CI	p-Value
Age	1.01	0.93 – 1.09	0.86
African American	0.30	0.06 – 1.50	0.14
Working Alliance Score	0.95	0.84 – 1.07	0.36
Illegal Drug and/or Alcohol Use	8.36	1.60 – 43.66	0.01

Note: p-value for Hosmer-Lemeshow Goodness of Fit = 0.614