Published in final edited form as:

J Addict Behav Ther Rehabil. ; 3(1): 1000115–. doi:10.4172/2324-9005.1000115.

Stigma among Individuals with Substance Use Disorders: Does it Predict Substance Use, and Does it Diminish with Treatment?

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Abstract

Aims—Drug and alcohol use-related stigma affects employment, physical and mental health, and has been shown to be a barrier to seeking treatment. Thus, the need to address stigma in substance use disorders treatment has been noted in the clinical literature. We aimed to examine whether stigma is related to alcohol/substance use as well as whether treatment as usual for substance use disorders affects stigma, depressive symptoms, and quality of life.

Methods—Participants were individuals attending intensive outpatient treatment for substance use disorders. Baseline sample consisted of 17 Caucasian, predominantly male (i.e. 65%) participants, averaging 34.06 years of age. At post-treatment and one month follow-up assessments there were 12 and 7 participants respectively.

Results—Higher post-treatment stigma was significantly related to a greater number of drug use days at follow-up. We did not find significant differences between baseline, post-treatment and follow-up assessment on self-stigma. However, participants reported a significant decrease in symptoms of depression from baseline to post-treatment and a significant increase in these symptoms between post-treatment and follow-up.

Conclusions—Our results suggest that stigma may have a detrimental impact on substance use. Also, while depressive symptoms may improve as a result of treatment as usual for substance use disorders, symptoms of depression may worsen shortly after treatment. These results highlight the need for more work on these relationships due to the very preliminary nature of these findings.

Keywords

Stigma; Treatment; Substance use disorders

Introduction

Definition of stigma

Research on stigma is complex and multidisciplinary in nature [1], and thus far, the vast majority of the stigma literature comes from the severe mental illness field. One of the earliest writings about stigma comes from Ervin Goffman's book entitled, "Stigma: Notes on the Management of a Spoiled Identity," [2] which lead to the increasing interest in stigma among social science researchers [3]. Goffman et al. defined stigma as the dehumanization of the individual based on their social identity or participation in a negative or an undesirable social category [2].

More recently, researchers have posited several types of stigma, including public, perceived, enacted, and self-stigma. *Public stigma* has been defined as the endorsement by the public of negative attitudes against a specific stigmatized group, which manifests in discrimination towards individuals belonging to that group [4]. *Perceived stigma* refers to a process whereby stigmatized individuals think that most people believe common negative stereotypes about individuals belonging to the same stigmatized category as they do [5]. *Enacted stigma*, in turn, has been described as a direct experience of discrimination and rejection from members of the larger society [6]. Finally, *self-stigma* has been defined as negative thoughts, feelings, and diminished self-image resulting from identification with the stigmatized group and anticipation of rejection from the larger society [7–9]. There is some preliminary evidence to support each of the above as a separate construct [6,10].

Stigma in the addictive behaviors literature

Drug and alcohol use are subject to very harsh moral judgments [11]. In fact, individuals with substance use disorders (SUDs) are viewed in a more critical way than those with severe mental illness [12,13]. For instance, Blendon & Young reported that the majority of the U.S. public holds negative views towards individuals with SUDs thinking of them as "lazy," "losers," and with "no future" [14]. Also, the World Health Organization (WHO) conducted a study in 14 countries to examine the relative stigma associated with some of the most stigmatizing conditions (e.g. being homeless, being HIV positive, having a criminal record). They reported that drug use was ranked as the most stigmatized condition while alcohol use was the 4th [15].

While individuals with SUDs report experiencing various forms of discrimination due to their gender, race, and sexual orientation, stigma related to drug use has the greatest impact on their lives [16,17]. Specifically, this stigma affects employment [18,19], physical health [17,20], and mental health [5,17,20] and has been shown to be a barrier to seeking treatment [21,22]. In addition, Luoma et al. reported that, among individuals in treatment for SUDs, 67% reported that their friends rejected them upon learning that they were using drugs and 65% reported that some of their family members did the same [23]. Moreover, Fitzgerald et al. reported that individuals with SUDs not only experience stigmatization from the general public in areas of employment, medical help, and housing but they also discriminate within their own group [24]. Specifically, the researchers reported that among IV drug users, some

of whom had Hepatitis C, those who were homeless IV drug users were perceived as “not caring” and “lazy.”

Stigma in the clinical literature

In the present proposed study, we chose to focus on *self-stigma* rather than other forms of stigma because preliminary data suggests that *self-stigma* is significantly related to alcohol and drug use [25]. Also, while self-stigma, more so than other forms of stigma, seems to be amendable through clinical interventions [23], it also has been shown to be a barrier to treatment [22,26]. Moreover, the need to address *self-stigma* in SUD treatment has been noted in the clinical literature [6,25,27], particularly since it has been found to be more strongly related to measures of quality of life and psychosocial functioning than either enacted or *Perceived stigma* [6].

We are aware of only two treatment studies that have examined stigma among individuals with SUDs. In the first one, Link et al. assessed dually diagnosed men pre- and post-treatment (i.e. therapeutic community or residential program) in order to investigate whether improvement in their psychiatric condition and SUDs would be associated with improved perceived and *Enacted stigma* [5]. Their results suggest that while men improved as a result of treatment, neither perceived nor *Enacted stigma* changed. In fact, stigma had an enduring effect on symptoms of depression in this study in spite of the improvement in drug and alcohol use [5]. The researchers did not assess self-stigma; however, their results suggest that some forms of stigma continue to persist even after symptoms improve with treatment. In addition, the authors did not report the relationship between substance use and stigma, and their sample was limited to men only. In the second study, Luoma et al. developed an Acceptance and Commitment Therapy (ACT) group treatment aimed at reducing *self-stigma* and *Perceived stigma* among individuals with SUDs [23]. Their preliminary results suggest that while *Perceived stigma* did not change after treatment, *self-stigma* did [23]. However, one of the limitations noted by the authors was that they did not examine substance use outcomes nor did they examine the relationship between *self-stigma* and drug use.

Summary and specific aims

There is substantial evidence in the literature that individuals with SUDs are subject to negative views, experience stigma, and are negatively affected by such experiences [5,11,20]. In addition, preliminary evidence suggests that standard treatment (TAU) for SUDs may not have any effect on either perceived or *Enacted stigma* while its effects on *self-stigma* have not been investigated [5]. Additionally, the relationship between *self-stigma* and substance use treatment outcomes has not been examined. There is some preliminary evidence, though, that an ACT-based treatment may have a positive effect on *self-stigma* among individuals with SUDs [23]. However, prior to further treatment development, it is crucial to establish whether *self-stigma* predicts substance use and whether TAU for SUDs has a positive effect on self-stigma. The present study addresses both of these issues. Lastly, we aim to replicate findings of others suggesting a significant relationship between stigma and depressive symptoms [5,28] as well as adding to extant literature by exploring the effects of TAU for SUDs not only on stigma but also on depressive symptoms.

Aim 1: To examine whether self-stigma, measured at baseline, post-treatment, and follow-up, predicts alcohol and/or drug use as well as symptoms of depression also measured at baseline, post-treatment, and follow-up.

Hypothesis 1a: Based on prior data [25], we predict that stigma will be significantly and positively related to substance use variables.

Hypothesis 1b: Based on findings reported by Link et al. [5] and Luoma et al. [28], we predict that stigma will be significantly and positively related to depressive symptoms.

Aim 2: To examine whether TAU for SUDs affects self-stigma.

Hypothesis 2: Based on previous work Link et al. [5], we hypothesize that TAU for SUDs will not result in reduced self-stigma.

Aim 3: To examine whether TAU for SUDs affects depressive symptoms.

Hypothesis 3: Given lack of previous research investigating this relationship, this is an exploratory aim.

Methods

Participants

Study participants were individuals diagnosed with SUDs who were seeking outpatient treatment in an intensive day treatment program for SUDs. The three major diagnoses in this treatment program are: alcohol dependence (50%), opioid dependence (13%), and polysubstance dependence (11%). Majority of participants complete this treatment program within 5 days of admission. Treatment is based on both group and individual sessions with both patients' counselor and psychiatrist. Treatment involves a mixture of cognitive behavioral strategies (i.e. problem solving, cognitive restructuring), relapse prevention, 12 step facilitation, motivational interviewing, and pharmacotherapy when indicated. We excluded participants who have a diagnosis of a Psychotic Disorder, were unable/unwilling to provide contact information, were unable/unwilling to provide locator information, or were under 18 years of age. At baseline, our sample consisted of 17 participants, while there were 12 and 7 participants at post-treatment and follow-up assessments respectively. Baseline sample was Caucasian, predominantly male (65%) participants, averaging 34.06 ($SD=12.28$) years of age. At baseline, our participants reported drinking an average of 14.9 ($SD=12.77$) days in the past month and consuming an average of 7.2 ($SD=5.4$) drinks per occasion. Table 1 displays that, at baseline, there were no significant differences between those who stayed and those who dropped out of the study on any of the variables of interest.

Procedures

This study was approved by the appropriate Institutional Review Board. We recruited patients from the intensive outpatient treatment program for SUDs and administered measures of alcohol and drug use, self-stigma, depressive symptoms, and quality of life at the beginning of the treatment program, at the completion of treatment, and at one-month follow-up. Participants were compensated in the form of grocery store gift card in the

amount of \$10, \$15, and \$20 for baseline, post-treatment and follow-up assessments, respectively.

Measures

Demographics: We obtained participant demographic information such as gender, race/ethnicity, and age.

Self-stigma was assessed using the Substance Abuse Stigma Scale (SASS) [29]. The SASS is a 17-item self-report measure of *self-stigma* among individuals with SUDs. Participants were asked to respond on a 5-point Likert-type scale ranging from “Never” to “Very often” to questions assessing shame. The SASS is composed of the following subscales: frequency of self-devaluing thoughts and feelings; fears of *Enacted stigma*; experiential avoidance of stigmatizing thoughts and feelings; and self-devaluation and fear of *Enacted stigma* as a barrier to taking valued action. Luoma et al. reported Cronbach’s alpha scores ranging from 0.82 to 0.88 for the SASS subscales providing evidence for adequate internal consistency [29]. In our study, Cronbach’s alpha was 0.88.

Alcohol/drug use quantity/frequency was assessed through the Timeline Follow-back Method (TLFB) [30]. In our study, the TLFB [30] was used in a self-report calendar form to assess participants’ alcohol and/or drug use at the following time points: a) baseline assessment of three months prior to treatment; b) post-treatment; and c) one-month follow-up. The TLFB [30] utilizes a calendar method to assess alcohol/drug use and provides the following information: extent, variability and pattern of use. The TLFB has been used extensively in both clinical and research settings and has been shown to have good psychometric properties across a wide variety of substances and diverse populations [30–33]. For the purpose of the present study, we derived a variable from the TLFB, “number of days used drugs,” “number of days used alcohol,” “average number of drinks per occasion.”

Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale (CESD) [34]. In this study, the CESD [34] was used as a self-report assessment of depressive symptoms at the following time points: baseline, post-treatment, and one-month follow-up. The CESD [34] is a 20-item questionnaire, and patients are asked to respond on a 5-point Likert type scale ranging from “not at all” to “nearly every day” to questions assessing symptoms of depression. The CESD [34] is widely used and has been shown to be a reliable and valid measure of symptoms of depression in a variety of settings and across diverse populations [34,35], as evidenced by internal consistency of 0.90 and adequate concurrent and construct validity [34]. In the present study, Cronbach’s alpha score was 0.78.

Results

Data analytic plan

While evaluating each Aim, we included all participants in our analyses (i.e. 17 at baseline, 12 at post-treatment and 7 at follow up). To test Aim 1, we conducted regression analyses with the SASS (baseline, post-treatment, and follow-up) as a predictor variable and the following variables as DVs (baseline, post-treatment, and follow-up): the CESD, drug use

and/or alcohol use days in the past month, and number of drinks per occasion in the past month as assessed by the TLFB.

Aim 1

Stigma as a predictor of alcohol/drug use—Only stigma measured at post-treatment was predictive of follow-up drug use. Namely, controlling for depressive symptoms, post-treatment stigma was significantly and positively related to number of drug use days at follow-up, $F(2,6) = 7.42, p = 0.03, \beta = 0.74, R^2 = 0.53, \text{Adjusted } R^2 = 0.48$. Baseline stigma, controlling for depressive symptoms, was not a significant predictor of drug use days at follow-up, $F(2,5) = 0.01, p = .99, \beta = -0.01$, or alcohol use days at follow-up, $F(2,5) = 0.67, p = 0.45, \beta = 0.35$, or number of drinks on drinking days at follow-up, $F(2,5) = 1.16, p = .33, \beta = 0.43$. Post-treatment stigma, controlling for depressive symptoms, was not a significant predictor of alcohol use days at follow-up, $F(2,6) = 1.49, p = 0.27, \beta = 0.45$, or number of drinks on drinking days at follow-up, $F(2,6) = 0.99, p = 0.36, \beta = 0.38$. Similarly, follow-up stigma, controlling for depressive symptoms, was not a significant predictor of drug use days at follow-up, $F(2,6) = 0.65, p = 0.45, \beta = 0.31$, or alcohol use days at follow-up, $F(2,5) = 1.49, p = 0.31, \beta = 0.54$, or number of drinks on drinking days at follow-up, $F(2,5) = 1.52, p = 0.31, \beta = 0.57$.

Stigma as a predictor of depressive symptoms—Baseline stigma was not a significant predictor of baseline depressive symptoms, $F(1,14) = 0.02, p = 0.89, \beta = -0.04$, post-treatment depressive symptoms, $F(1,10) = 0.95, p = 0.35, \beta = 0.29$, and follow-up depressive symptoms, $F(1,6) = 0.03, p = 0.87, \beta = 0.07$. Also, post-treatment stigma, was not a significant predictor of post-treatment depressive symptoms, $F(1,10) = 0.25, p = 0.63, \beta = 0.16$, and follow-up depressive symptoms, $F(1,6) = 0.08, p = 0.78, \beta = -0.12$. Lastly, follow-up stigma, was not a significant predictor of follow-up depressive symptoms, $F(1,6) = 0.09, p = 0.78, \beta = -0.12$.

Aim 2

To test Aim 2, we conducted a within subject analysis with the baseline, post-treatment, and follow-up SASS as the DV.

We did not find a significant effect of assessment time (i.e. baseline, post-treatment, and follow-up) on self-stigma, Wilk's Lambda = 0.78, $F(2,6) = 0.82, p = .48, \eta^2 = 0.22$.

Aim 3

To test Aim 3, we conducted a within subject analysis with the baseline, post-treatment, and follow-up depressive symptoms as the DV.

There was a significant effect of assessment time (i.e. baseline, post-treatment, and follow-up) on depressive symptoms, Wilk's Lambda = 0.31, $F(2, 5) = 5.57, p = 0.05, \eta^2 = 0.69$. Due to this significant effect, we conducted three paired samples t-tests, with Bonferroni correction, to make post-hoc comparisons between conditions. A first analysis indicated that there was a significant difference between baseline ($M = 48.3, SD = 3.15$) and post-treatment depressive symptoms ($M = 39.86, SD = 1.74$), $t(10) = 3.42, p = 0.01$. In the second analysis,

we did not find a significant difference between baseline ($M= 48.43$, $SD= 3.15$) and follow-up depressive symptoms ($M= 52.29$, $SD= 2.97$), $t(6) = -1.61$, $p = 0.16$. Lastly, the third analysis indicated that there was a significant difference between post-treatment ($M= 39.86$, $SD= 1.74$), and follow-up depressive symptoms ($M= 52.29$, $SD= 2.97$), $t(7) = -3.84$, $p = 0.01$.

Discussion

Although stigma is a relatively understudied construct in the addictive behaviors literature, it has received more attention from the research community in recent years. Therefore, there is solid evidence that supports the notion that individuals with SUDs experience stigma and are negatively affected by it [5, 8,11]. Additionally, Link et al. were the first to investigate the effects of TAU for SUDs on stigma and reported that it may not have any effect on either perceived or *Enacted stigma* [5]. However, they did not assess self-stigma. Also, while there is very preliminary support in the literature for the relationship between stigma and drug use quantity/frequency and severity [25], the relationship between *self-stigma* and such substance use related characteristics after treatment for SUDs has not been examined. There is some preliminary evidence, though, that an ACT-based treatment may have a positive effect on *self-stigma* among individuals with SUDs [23]. Still, Luoma et al. did not report on the relationship between substance use outcomes and stigma [23].

The present study aimed to examine the impact of TAU for SUDs on *self-stigma* in order to determine the necessity of an intervention specifically targeting self-stigma. Moreover, we set out to provide further support for preliminary findings of others showing a significant relationship between *self-stigma* and depressive symptoms [5,28] and a significant relationship between stigma and substance use related variables [25]. Lastly, we aimed to extend the literature by exploring the effects of TAU for SUDs on both depressive symptoms and stigma.

The first aim of the present study was to investigate the relationship between *self-stigma* and substance use related variables as well as depressive symptoms. Contrary to our prediction and extant preliminary findings [5,28], stigma was not significantly related to depressive symptoms. However, our hypothesis that stigma would be related to substance use was partially supported. Specifically, we found that participants who reported more *self-stigma* at post-treatment also reported more days using drugs at one-month follow-up. Still, *self-stigma* measured at other assessment points (i.e. baseline and follow-up) was not significantly related to substance use variables. Given our small sample size, additional research is warranted in order to clarify this relationship.

Our second aim was to assess whether TAU for SUDs would have a significant effect on self-stigma. Our hypothesis, which was based on prior research by Link et al., was supported [5]. Namely, we did not find a significant difference on *self-stigma* scores between baseline, post-treatment, and follow-up assessments. However, although this finding is consistent with prior preliminary findings, given our small sample size, these results need to be interpreted with caution. In fact, future investigation of this aim would benefit not only from a larger

sample size but also from a more sophisticated and appropriate analysis of the anticipated null effect such as equivalence testing.

Our third aim was exploratory in nature. We were interested in the relationship between TAU for SUDs and depressive symptoms. As far as we are aware, ours is the first study to assess this relationship among adults with SUDs. Our data suggests that symptoms of depression significantly change as a result of treatment for SUDs. Specifically, our participants reported a significant decrease in symptoms of depression from baseline to post-treatment. However, they also reported a significant increase in these symptoms between post-treatment and one month follow-up. This is a noteworthy finding given our small sample size. Specifically, in spite of being limited in number of participants, we found significant changes in symptoms of depression immediately post treatment. However, these gains did not last. Therefore, these findings, albeit very preliminary, offer potentially useful information to clinicians and researchers working with individuals with SUDs. Specifically, perhaps in order to maintain depression-related gains achieved in treatment, patients would benefit from additional, brief, follow-up sessions targeting depressive symptom relapse-prevention. Interestingly, Horigian et al. [36] recent report suggests that adolescents might be able to maintain treatment gains longer than our adult participants. Specifically, Horigian et al. found that their participants significantly reduced symptoms of depression and anxiety between baseline and one year follow-up after receiving treatment for SUDs [36]. Still, these researchers did not report immediately post-treatment data.

The present study has several limitations which should be taken into account when interpreting our results. First, as we already mentioned, our sample size was very small. In addition to concerns related to adequate power to test proposed hypotheses, this limitation poses concerns related to generalizability and explicability of our results. Therefore, studies with larger samples are warranted in order to replicate our results. Second, we relied on self-report measures on substance use behavior, which some may consider as less reliable than alternative methods. However, some research indicates self-report is more accurate [37,38] than collateral data and biochemical markers. Self-report is also more cost-effective than collateral data, and the expense does not appear to be off-set by corresponding benefits [39,40]. Third, given that our sample was entirely Caucasian, the generalizability of our findings is limited. Lastly, our low follow-up rate poses a limitation.

In spite of the aforementioned limitations, our preliminary results are noteworthy because we are the first to investigate the effects of TAU for SUDs on self-stigma, depressive symptoms, and quality of life. While preliminary, our results suggest that while there is no significant change in self-stigma, TAU for SUDs seems to ameliorate symptoms of depression at least for a brief period. Additionally, surprisingly and contrary to prior preliminary findings, our results suggest that there is no significant relationship between *self-stigma* and symptoms of depression. However, we were able to report at least some support for the relationship between *self-stigma* and subsequent substance use. As noted above, more research is warranted in order to replicate our results. Given the recent increase in scientific studies in this area, we are confident that these questions will be addressed in future research as stigma among individuals with SUDs has been shown to be detrimental to

their psychological and physiological wellbeing [5,18] and to treatment seeking [25] among this underserved population.

Acknowledgements

Financial support for this study comes from: Brown University Medical School Predoctoral Seed Money Research Grant (Kulesza). In addition, Dr. Kulesza was supported by the 2T32AA007455-26 (Larimer) training grant while working on this manuscript. There are no other acknowledgments to disclose. In addition, I certify that the manuscript is original, not previously published and not under consideration elsewhere. All authors have agreed to the final form of this manuscript.

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Table 1

Descriptive Characteristics of Completers and Non-completers.

	Total sample (n=17)	Completers (n=7)	Non-completers (n=10)	<i>p</i>
Age	34.2 (SD=12.7)	35.3 (SD=11.9)	33.3 (SD=13.9)	ns
Race (%) Caucasian	100%	100%	100%	ns
Sex (%)				ns
Males	65%	63%	67%	ns
Females	35%	37%	33%	ns
SASS ^a	48.4 (SD=4.7)	47.1 (SD=4.5)	49.3 (SD=4.8)	ns
CESD ^b	47.4 (SD=7.8)	48.4 (SD=8.3)	46.6 (SD=7.8)	ns
TLFB ^c	11.7 (SD=11.5)	14.0 (SD=12.7)	9.9 (SD=10.9)	ns
TLFB ^d	14.9 (SD=12.8)	17.1 (SD=13.1)	13.2 (SD=13.2)	ns
TLFB ^e	7.2 (SD=5.4)	8.1 (SD=6.9)	6.4 (SD=4.3)	ns

Note.^a Indicates a summary score representing self-stigma.^b Indicates a summary score representing symptoms of depression.^c Indicates an average # of days using drugs in the past month.^d Indicates an average # of days drinking in the past month.^e Indicates an average # of drinks per occasion in the past month.

SASS= Substance Abuse Stigma Scale; QOL= Quality of Life Scale; CESD= Center for Epidemiologic Studies Depression Scale; TLFB= Timeline Follow-back.