



Predictors of Successful Discharge from Intensive Outpatient Treatment for Substance Use Disorders

Abstract

Do demographic or recovery metrics serve as predictors of substance use disorder treatment completion? Successful treatment program completion can contribute to positive outcomes⁵. Extant research focuses on predictors of early treatment dropout and retention with few studies investigating predictors of successful treatment completion. The University of Minnesota's Center for Practice Transformation (CPT) partnered with NUWAY® to investigate the association between participant characteristics and metrics of recovery at admission with successful completion of their treatment program. Results indicate that both demographic characteristics and recovery metrics are significant predictors of successful treatment completion.

Background

According to the 2015 National Survey on Drug Use and Health, 21.7 million people in the United States over the age of 12 needed substance use treatment that year³. This substantial need within the US population underscores the impact that successful treatment can have on society, making our understanding of factors that may or may not contribute to success imperative. Research focusing on predictors of successful substance use disorder (SUD) treatment completion or successful discharge is limited. The majority of research on this topic focuses primarily on predictors of early treatment dropout or predictors of retention in treatment programs^{1,2,5,7}. Some studies have aimed to evaluate how the number of days in a treatment program can impact clients' outcomes after leaving treatment^{7,8}. Prior research has found that clients who successfully complete a treatment program are more likely to have more positive outcomes after leaving care, indicating that the length of stay in a program is related to its effectiveness⁵. Several studies have found mental health diagnoses, age, differences in substance type, ethnicity, income, and social support can serve as predictors of retention in a treatment program^{4,7} but do not explore predictors of successful treatment program completion. Given the limited research on predictors of successful treatment completion, this study aimed to determine factors that may contribute to a client's successful completion of treatment.

This study was conducted by the University of Minnesota's Center for Practice Transformation (CPT) as part of an ongoing larger study of outcomes at NUWAY®, a large non-profit organization in the Midwest serving individuals recovering from substance use disorders and co-occurring mental illnesses.

Methods

Clients receiving intensive outpatient services at NUWAY® were given the option to participate in the study during their admission. Surveys completed at admission included demographic questions and outcome measures of substance use, recovery capital, depression, and anxiety. At the time of their discharge from services, participants had the option to complete another survey which included outcome measures of substance use, recovery capital, depression, and anxiety as well as additional questions focusing on their care. Information about dates of service and discharge status was retrieved from participants' electronic health records. Fisher's Exact and Kruskal-Wallis tests were used to identify significant differences between those who were successfully discharged and those who were unsuccessful. Associations between variables and treatment success are reported as Cramer's V for categorical variables and effect sizes using Cohen's d for continuous variables.

Results

From August of 2019 to August of 2021, a total of 4,601 participants had discharge status data collected. Of the total participants, 32% (n=1,452) were discharged with staff approval, indicating that they had successfully completed treatment programming.

Characteristics Associated with Successful Discharge

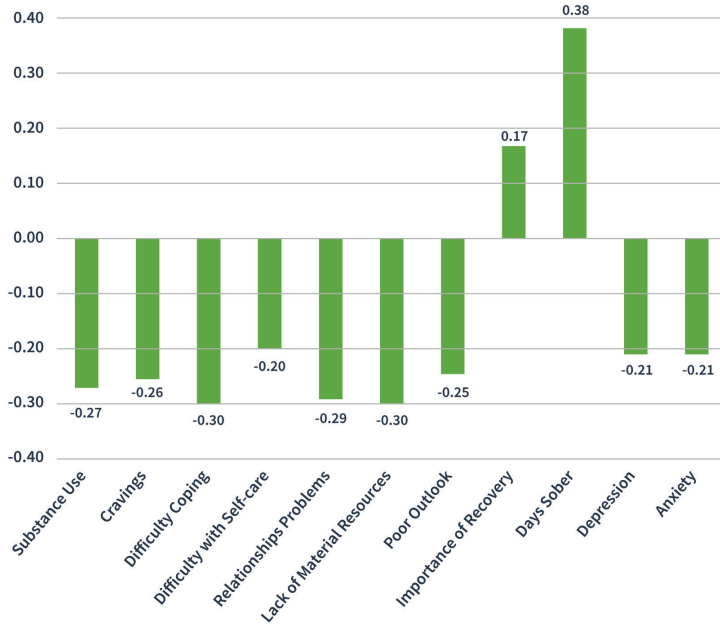
Characteristics of participants at intake showed small but significant associations with successful discharge. The largest associations were between successful discharge and age ($d = 0.129, p < 0.001$), number of prior treatment attempts ($V = 0.156, p < 0.001$), and education ($V = 0.12, p < 0.001$). There were also significant (but smaller) associations between successful discharge and sex, gender identity, marital status, race, and prior homelessness. There were no associations between successful discharge and employment status, age of first use, being court ordered, and prior treatment setting.

Recovery Metrics Associated with Successful Discharge

Nearly all the metrics of recovery measured at admission showed significant associations with successful discharge. Those with small to moderate association were difficulty with coping ($d = -.30, p < 0.001$), days sober ($d = 0.38, p < 0.001$), current substance use ($d = -0.27, p < 0.001$), difficulty in relationships ($d = -0.29, p < 0.001$), and

low material resources ($d = -0.30, p < 0.001$). Cravings, difficulty with self-care, poor outlook on life, depression, and anxiety all had small negative associations with successful discharge. Recovery importance had a small positive association and there was no association between food insecurity and successful discharge.

Predictors of Successful Treatment Completion



Discussion

This study explores predictors for successful completion of intensive outpatient programming for SUD. While this is an initial investigation into the matter, these findings do contribute to our knowledge of factors that play a role in treatment completion. It was somewhat surprising to learn that nearly all the characteristics of a person who is admitted to treatment have a significant association with program completion. However, the very small associations tell us that they contribute very little to the likelihood of a person completing SUD treatment successfully. What may be more interesting in this regard, is the lack of association between employment status, age of first use, being court ordered, and prior treatment setting. These factors tend to be associated with higher risk and lower engagement. However, our results indicate that higher risk and lower engagement may not translate to successful treatment completion. It is probable that while a person’s demographic characteristics may have a slight impact on successful treatment completion, the relationships between treatment completion and demographic characteristics are less important than other factors involved at the time of admission to treatment.

Unsurprisingly, positively oriented recovery metrics, such as believing recovery to be important and maintaining sobriety for longer periods of time, predict successful completion. Similarly, negatively oriented recovery metrics such as substance use, difficulty coping, lack of material resources and relationship problems, have a negative association with successful completion in that increased problems point to decreased likelihood that a client will complete treatment successfully. Generally, an association of 0.2 is regarded as small, 0.5 is medium, and 0.8 is large. However, in behavioral health, median associations are around 0.36. With this in mind, we can think of 0.3 as a medium association compared to other behavioral health research.

Considering that these recovery metrics contribute to the likelihood that a client completes SUD treatment successfully, treatment programs can adjust programming to better support clients as they enter treatment. For example, because difficulty coping is one of the strongest predictors of successful discharge, programs may increase the frequency and intensity of teaching coping skills and strategies early in care to enhance the probability that a client will be able to complete treatment programming successfully. Likewise, the negative effect of a lack of material resources could be moderated by providing wraparound services that offer housing, employment support, and money management training. The third most impactful metric is relationship problems. Clients who enter treatment programming reporting high levels of difficulty in relationships with others could benefit from specialized group programs that focus on communication and empathy building.

This research indicates that recovery metrics are stronger predictors of successful completion of SUD treatment than demographic characteristics. The relationships between these metrics is likely complicated and in need of further examination. Future research could focus on exploring these relationships to add to our understanding of how to best design programming that will increase the likelihood a person with an SUD will complete treatment successfully.

Limitations

The main limitation of this study was the depth of this initial investigation and analysis of the association between characteristics at intake and successful treatment completion. Future analysis of associations between client characteristics at intake and successful treatment completion including more advanced statistical modeling is necessary.

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