

## Perceived stress during admission predicts treatment retention in a residential program

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**Background:** Over one million people in the United States received residential treatment for a substance use disorder (SUD) in 2020. Shorter treatment retention is associated with adverse outcomes compared to individuals retained in treatment longer. Entering treatment with higher stress may be associated with leaving prematurely. This study aims to examine the impact of perceived stress during admission on treatment retention in a short-term residential treatment facility.

**Methods:** This study used de-identified data of 357 treatment episodes of adults entering a short-term (28-day) urban Mid-Atlantic residential facility between October 2019 through February 2020. The dataset included demographic characteristics, substance use characteristics, treatment completion status, treatment retention, and perceived stress. Perceived stress was measured by the 10-item perceived stress scale, with higher scores indicating greater perceived stress. Treatment completion status is a binary variable that identifies individuals as completing treatment or prematurely discharging from treatment. Treatment retention is the number of days completed during treatment. Univariate and bivariate analyses were used to describe the sample. A multivariable Cox regression model was used to examine premature treatment discharge as the event and the number of days in treatment as time.

**Results:** The sample was primarily male (72.0%) and non-Hispanic Black (71.4%). Most of the sample had heroin as their primary substance (55.4%), and alcohol was the second most identified primary substance (23.0%). Most of the sample were polysubstance users (68.9%). A slight majority (53.5%) completed the full 28 days of treatment, with the average length of treatment for the full sample being 19.1 days. The number of days in treatment and perceived stress were negatively associated ( $r_s = -.155$ ,  $p < .01$ ). The Cox regression model found higher perceived stress (aHR = 1.031, 95% CI = 1.008-1.054,  $p = .008$ ) and younger age (aHR = .985, 95% CI = .971-.999,  $p = .033$ ) was associated with a shorter treatment retention.

**Conclusions:** Early stress management interventions during treatment admission may increase treatment retention in short-term residential treatment.