Efficacy of the Ria Treatment Platform
The First 230 Patients
John Mendelson MD1,2, Mary Mitchell PhD2, Jan Gryczynski PhD3, Steven Carswell PhD2, Robert Schwartz MD2
Ria Health1, San Francisco, CA and Friends Research Institute2, Baltimore MD

Abstract

Aim: To investigate longitudinal trends in blood alcohol content (BAC) assessments during a novel telehealth treatment for alcohol use disorder. Background: Despite available, efficacious treatments for alcohol use disorder (AUD), only 6.7% of the 15.1 million people diagnosed with AUD in 2015 sought treatment. Barriers such as stigma and lack of transportation make teledmedicine by smartphone an attractive alternative. The Ria Health platform is a telemedicine program and smartphone app to help people with AUD decrease their alcohol consumption. Patients access a physician, obtain medication to curb alcohol cravings, and receive support from a recovery coach. As part of the program patients track their BAC through daily breathalyzer assessments linked to their smartphones. Methods: The current study examined breathalyzer data collected daily over a 6 month period, with the analysis restricted to evening breath tests (N=230, 16,952 observations). Using dynamic structural equation modeling to analyze the ecological momentary assessment data, a linear model was compared against a quadratic model. Deviance Information Criterion supported the quadratic model, which was subsequently used to depict BAC trends graphically. Results: Both the linear (b = -.04 [-.06, -.03], p < .001) and quadratic (b = .01 [.00, .02], p < .01) models showed significant reductions in BAC over time. Mean BAC decreased from .07 at baseline to .05 at 6 months, a 27.5% decrease. Conclusions: Patients using the Ria Health platform reduce their alcohol consumption and maintain reduced use for at least 6 months. More broadly, these results support teledmedicine strategies such as providing prescription medications and medical advice via smartphone, rather than relying on the traditional "brick and mortar" treatment centers.

Introduction

Medications combined with psychosocial treatments are effective in AUD but remain underused. The lack of adoption of evidence-based medication assisted treatments is due to many factors including:
- a shortage of trained and engaged physicians,
- lack of integration of psychosocial with medical treatments,
- onerous time, financial and geographic requirements for accessing treatment
- use of a binary primary outcome (abstinence vs non-abstinence)

The Ria Health platform is a telemedicine program and smartphone app to help people with AUD decrease their alcohol consumption. Patients use a dedicated HIPPA-compliant app to access Ria physicians, obtain medication to curb alcohol use (naltrexone and others), and receive support from recovery coaches.

As part of the program patients track their breath alcohol concentrations with daily breathalyzer assessments linked to the Ria app on their smartphones. From the provider perspective Ria is a Treatment Platform with an Integrated Treatment System. From the patient perspective an Ria is an App: Objective monitoring of alcohol use, Medical Management, Substance Abuse Coaching, Treatment outcome monitoring, Peer and Family Support, Methods to engage patients.

Methods

Data were collected through the Ria Treatment Platform.

Inclusion Criteria: To be included patients needed to:
- have a baseline BAC measured or calculated
- agree to receive medical and psychosocial management of AUD

Exclusion Criteria:
We excluded patients who:
- never had an alcohol use baseline established (N=26)
- only did product testing were excluded (N=7)

Results and Conclusions:

Results:
Both the linear (b = -.04 [-.06, -.03], p < .01) and quadratic (b = .01 [.00, .02], p < .01) models showed significant reductions in BAC over time.
- Mean BAC decreased from .07 at baseline to .05 at 6 months, a 27.5% decrease.

Conclusions:
Participation in Ria is effective
Ria patients:
- Decreased mean BAC from 0.07 to 0.03
- Decreased estimated standard drink intake from 30 to 10 per week
- Increased non-drinking days from 1.3 to 4.3 days per week.

Participation in Ria is engaging
Ria patients:
- Remain enrolled in the program, paying a monthly subscription fee of $99-249
- Use the breathalyzer regularly
- Adhere to prescribed medications
- Use the secure text messaging system to communicate with the care team

As of March 25, 2018 Ria enrolled 393 patients. At the 180 day point 57% remained enrolled and engaged.

Ria is Big Data
Ria patients contributed:
- 74,963 engagement data points including:
  - 40,691 breathalyzer readings
  - 13,479 medication adherence confirmations
  - 6,857 care team visits
  - 11,822 in-app text messages
  - 2,114 payments