Exploratory Study of Factors Affecting Medication Use

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Introduction

- Medication Adherence refers to the extent to which a person's behavior- such as taking medication, following a diet, and/or executing lifestyle changes corresponds with agreed upon recommendations[1]
- Medication non-adherence is a significant public health issue[9]
  - Medication non-adherence leads to poor health outcomes and increased healthcare costs[9]
- Studies suggest that 50% or more of patients become non-adherent to their treatment[1-3]
- Generally, chronic conditions are associated with lower medication adherence rates[2]
  - Results in poor medical outcomes, higher hospital rates, and increased health care costs[2]
- Certain patient charactersitics have been associated with poor adherence to medications[1,3,4]
- Personality characteristics have not been studied extensively but show promising potential in understanding medication adherence[6]

Objective

To correlate objective measures of adherence-medical refill behavior, with the results of personality questionaries to determine if personality items add value in predicting medication non-adherence

Methods

Inclusion Criteria
- Adults between 18-110 years of age, all genders, taking at least one recent chronic oral medication for diabetes mellitus, depression, hypertension, and/or hypercholesterolemia for at least 6 months

Overview:

Survey results compiled
↓
Linked with EMR data on medication refill records
↓
Data Analysis
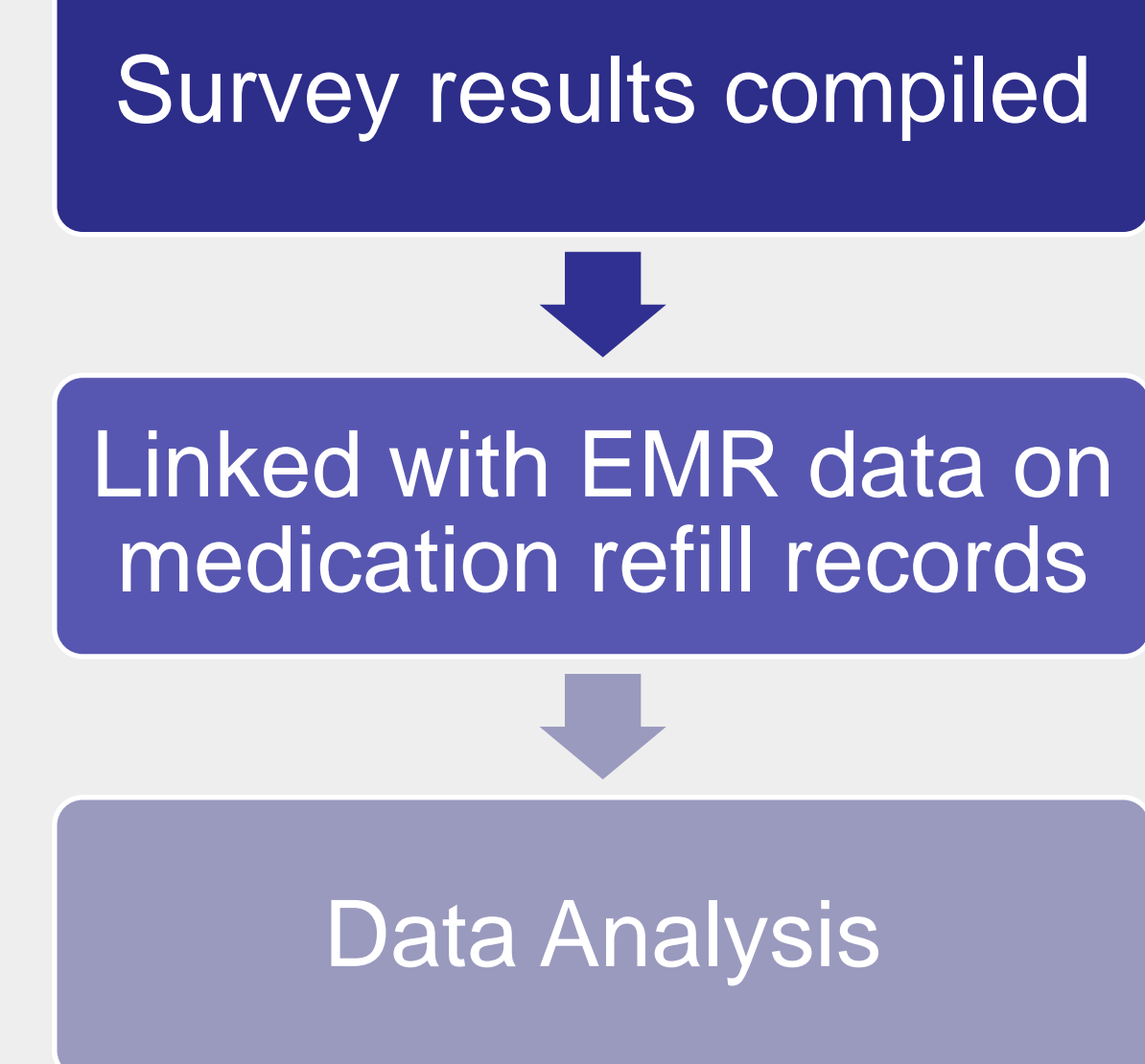
Surveying (4 parts):

Background Questions
- Demographic and medication use experience, including experiences/barriers around medication use/adherence

CES-Depression Scale - 20 items
- Depression is a known predictor of non-adherence -> serves as both a control variable (in personality analysis), and outcome variable in the study

Personality Inventory for DSM-5 Brief Form (PID-5-BF) Adult – 25 items
- Selected to assess for the 5 personality domains on a more clinical end of the spectrum

Big Five Inventory 2 (BFI-2) – 60 items
- Selected to assess the 5 personality domains among the general population

About Survey
- A five-factor dimensional approach to personality (Extraversion, Agreeableness, Conscientiousness, Negative Emotionality, and Open-Mindedness) is assessed with two measures in order to be more inclusive and comprehensive on personality evaluation

About Objective Medication Adherence Measure:
- Use participant's medication refill records of target oral medications (hypertension, diabetes, depression, and/or hypercholesterolemia)

Additional Information
- Surveys were recorded via REDCap
- Participants who completed the survey receive a 15$ gift card
- Descriptive, bivariate, and multivariate analyses will be used to identify relationships and extent variables are associated with adherence levels

Pivoting Methods

Over the course of this study, we have had to make adjustments in our methods to increase response rate / survey completion. Some of these adjustments include:
Allowing for a paper option of the survey to be used, arranging calls / voicemails to recruit participants, having all materials translated to Spanish to allow for greater accessibility

Expected Results

We would expect to see trends that certain background factors, personality domains, and aspects of the medication experience to be most associated with adherence/non-adherence. Because this is an exploratory study, specific associations have not been predicted

Future Implications

- Most tools are only able to predict about 50% of non-adherence that might occur.[7,8]
  - There is great need for tools that yield better predictions
- Need a tool that is short, easy to follow, and can predict adherence with high accuracy across a variety of chronic conditions
- We suspect that personality characteristics may add considerable value in predicting medication non-adherence and allow clinicians opportunities to design adherence education efforts based on an individual's personal traits
- Identifying personality characteristics that have strong association with predicting adherence can aid clinician in addressing non-adherence

Acknowledgements

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