Transdiagnostic and Functional Predictors of Course of Depression in the Penn State Psychiatry Clinical Assessment and Rating Evaluation System (PCARES) Registry

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Introduction

Background: We aimed to identify sociodemographic, clinical, and functional factors that predict depression severity over one year in a real-world, naturalistic, transdiagnostic clinical sample. A subset sample with moderate depression was examined to determine the magnitude of improvement.

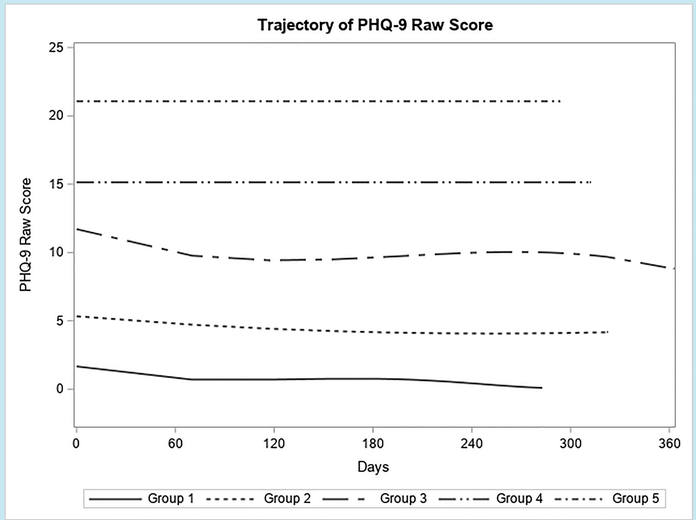
Methods

The Penn State Psychiatry Clinical Assessment and Rating System (PCARES) Registry houses data from systematically-structured patient-reported outcomes and clinical data from an Electronic Medical Record (EMR) gathered during routine clinical care of patients seeking mental health care at a mid-Atlantic clinic. Self-report symptom and functional measures were obtained, and sociodemographic features and clinical diagnoses were extracted from the EMR from 1,766 patients between 2/6/2016 to 9/30/2019. The Patient Health Questionnaire 9 (PHQ-9) depression scale was obtained at each visit. Using a discrete mixture clustering model, the study population was divided into five longitudinal trajectory groups, termed depression severity groups, based on intra-individual PHQ-9 score trajectories over one year. Multinomial logistic regression models were estimated to evaluate associations between characteristics and the likelihood of depression severity group membership. To determine the magnitude of improvement, predictors of the slope of the PHQ-9 trajectory were examined for patients with moderate depression.

Results

- The strongest predictors of high depression severity over one year were poor functioning, high transdiagnostic DSM-5 Level 1 crosscutting symptom score, diagnosis of Post-Traumatic Stress Disorder (PTSD), public/self-pay insurance, female gender, and non-White race.

Results: Depression Severity Groups



Solid: N=97 (5.5%); Dotted: N=645 (36.5%); Long Dash: N=508 (28.8%); Medium Dash: N=372 (21.1%); Short Dash: N=144 (8.1%)

	N=1766
Age (yrs), mean (SD)	43.3 (16.6)
Sex, %	
Male	36.3
Female	63.7
Race %	
White	86.9
African American	5.7
Other	7.5
Ethnicity. %	
Non-Hispanics	93.3
Hispanics	3.8
Other	2.8
Marital Status, %	
Single	42.5
Married	41.4
Formerly Married	16.2
HS graduates, %	90.2 (4.6)
Household Income ($), mean (SD)	60,019 (10,659)
Commercial Insurance, %	56
Public/Self-Pay, %	44
Brief Trauma Questionnaire; ≥1 trauma (%)	74.1

	Mean (SD)
BMI (kg/m^2)	30.7 (8.1)
PHQ-9 (score: 0-27)	10.4 (6.9)
Lvl-I Symptom Score	6.6 (3.2)
Lvl-II Depression Score (T-score)	65.1 (8.0)
Lvl-II Anxiety Score (T-score)	66.1 (8.2)
Lvl-II Sleep Score (T-score)	62.6 (7.8)
WHODAS (score: 1-5)	
Communication	2.1 (0.9)
Get Around	2.1 (1.2)
Self-care	1.5 (0.8)
Get along w/ people	2.1 (1.0)
Household work	2.4 (1.2)
Work/School	2.4 (1.2)
Social Participation	2.7 (1.2)
Overall disability score	2.2 (0.8)
Clinical Diagnoses	%
MDD	43.5
BD	12.9
GAD	21.2
Social Phobia	2.3
Panic Disorder	4
OCD	3.3
PTSD	6.6

Results, cont.

- Among the subset of patients with moderate depression, strong predictors of improvement were commercial insurance and exposure to trauma; the strongest predictors of worsening were high functional impairment, high transdiagnostic Level 1 symptom score, diagnosis of PTSD, diagnosis of bipolar disorder, and marital status of single or formerly married; depression-specific symptom measures were not predictive.

Discussion

- Identifying modifiable predictors of outcome that are easily measurable in real-world patient populations is vitally important for improving treatment outcomes for depression (Rush and Thase, 2018).
- The strongest predictors of depression severity and worsening were the transdiagnostic symptoms, trauma, sociodemographic factors and functional disability score
- Lower-resource socioeconomic environment, exposure to trauma, general symptom burden, and worse functioning predict continuation of depression more strongly than depression symptoms alone.

References

Judd, L.L., Schettler, P.J., Solomon, D.A., Maser, J.D., Coryell, W., Endicott, J., Akiskal, H.S., 2008. Psychosocial disability and work role function compared across the long-term course of bipolar I, bipolar II and unipolar major depressive disorders. J Affect Disord 108, 49-58.

Rush, A.J., Thase, M.E., 2018. Improving Depression Outcome by Patient-Centered Medical Management. Am J Psychiatry 175, 1187-1198.

Solomon, D.A., Leon, A.C., Coryell, W., Mueller, T.I., Posternak, M., Endicott, J., Keller, M.B., 2008. Predicting recovery from episodes of major depression. J Affect Disord 107, 285-291.

Trivedi, M.H., Rush, A.J., Wisniewski, S.R., Nierenberg, A.A., Warden, D., Ritz, L., Norquist, G., Howland, R.H., Lebowitz, B., McGrath, P.J., Shores-Wilson, K., Biggs, M.M., Balasubramani, G.K., Fava, M., Team, S.D.S., 2006. Evaluation of outcomes with citalopram for depression using measurement-based care in STAR*D: implications for clinical practice. Am J Psychiatry 163, 28-40.

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