

Treatment-Seeking Behaviors in Individuals with Comorbid Chronic Disease and Depression

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INTRODUCTION

- Chronic medical conditions (CMCs) are any non-communicable disease (NCD) that is of long duration and progresses slowly (WHO, 2014).
 - The estimated cumulative yearly cost of health care for CMCs is \$5.8 billion in LMICs, and \$1 trillion in the US (Beaglehole, Ebrahim, & Reddy, 2007; DeVol, Ross, & Bedroussian, 2007).
 - Depression may precipitate the onset of a CMC, after which depressive symptoms are worsened because of the new CMC (Chapman, Perry, & Strine, 2007).
 - People with one or more CMC are at an increased risk for developing depressive symptoms (Himmerich, Fulda, & Linseisen, 2008).
 - Depression is a common mood disorder characterized by feelings of lowness, emptiness, fatigue, having a low overall quality of life, and other negative mental and physical symptoms (NIMH, 2017; Simon, 2009; Cuijpers, Beekman, & Reynolds, 2012).
 - Depression is the primary cause of disability in the world and its burden is expected to grow with time (WHO, 2017)
 - Although known effective treatments for depression exist, less than half of all individuals with depression receive treatment (WHO, 2017).
 - Individuals with depression either alone or comorbid with one CMC have worse overall health and quality of life than individuals with two or more CMCs without depression (Moussavi, Chatterji, & Verdes, 2007).
 - While much is known about effective treatments for depressive symptoms in individuals with CMCs, individuals with depression comorbid with physical disorders seek mental health treatment less than those with depression alone (Demyttenaere, Bonnewyn, & Bruffaerts, 2006).
 - Thus, individuals with comorbid CMCs and depression may also be at an increased risk for not seeking and receiving health care treatment for their CMC(s). Depressive symptoms such as fatigue, lowness, irritability or stress associated with the CMC(s) may contribute to this potential treatment gap.
 - Although, it is unclear to what extent individuals with CMCs comorbid with depression differ in their medical treatment-seeking efforts compared to individuals with CMCs alone. Given the significant global burden that CMCs and depression create, it is important to understand the mechanisms that may inhibit the usage of important medical treatments.
 - Further understanding these patterns may serve to influence new composite treatment approaches, as well as the modification or addition of mental health screening practices in primary or community care settings where CMCs are diagnosed and treated.
- Current Study:** This poster demonstrates the influence of depressive symptoms on treatment-seeking behaviors for CMC symptoms in people with one or more CMC.

METHOD

Participants

- Participants were N=28,590 adults who completed WHS (2003) and diagnosed with either angina, asthma, or both.

Measures

- World Health Survey – Individual Questionnaire (WHO, 2003). Depression inventories assessed three depression symptoms and overall severity. Respondents indicated their past diagnosis of either angina or asthma and if they have received treatment within the past two weeks.

Procedure

- The goal of the WHS was to collect global health data to inform national health systems across a number of countries. Logistic regression modeling was performed in each group to measure the effect of depression on treatment-seeking.

DISCUSSION

Summary of Results – The probability of a respondent receiving treatment for their CMC depends partially on the presence and severity of their depression symptoms. This effect is stronger for people with angina that it is for people with asthma. This may be because asthma has more serious outcomes associated with no treatment than angina. That is, people with asthma may require treatment more so than people with angina.

Implications for Health Care – The results of this study suggest that depression may be inhibiting treatment-seeking for and subsequent recovery from CMCs. As such, primary care providers should not only assess depressive symptoms as a consequence of CMC onset but also as a potential treatment barrier. Depressive symptoms and their severity should then be routinely assessed throughout the course of treatment for a person's CMC. Treatment strategies should target both CMC and depressive symptoms so as to increase a person's chances of seeking and receiving treatment to manage their CMC.

Future Directions – Future research should include inventories of depression and CMC symptoms and severity that are more detailed and comprehensive than this one. Also, individuals with a CMC should be grouped not on their formal diagnosis but instead on their reports of CMC symptoms (e.g., chest pain for angina). This will allow researchers to better identify the relationship between these two constructs such that they will be able to measure the effect of depressive symptoms on treatment-seeking across different levels of CMC symptom presentation and severity.

RESULTS

Table 1. Correlation matrix.

| Correlation matrix of model variables with minimum, mean, standard deviation, and maximum values | | | | | | | | | | | | | |
|--|--------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] |
| 1 Age | | | | | | | | | | | | | |
| 2 Job | 0.10 | | | | | | | | | | | | |
| 3 Education | -0.15 | -0.26 | | | | | | | | | | | |
| 4 Self care | 0.25 | 0.16 | -0.14 | | | | | | | | | | |
| 5 Mobility | 0.33 | 0.17 | -0.12 | 0.60 | | | | | | | | | |
| 6 Sad/empty | -0.08 | -0.06 | 0.03 | -0.13 | -0.19 | | | | | | | | |
| 7 Lost interest | -0.07 | -0.07 | 0.03 | -0.14 | -0.20 | 0.73 | | | | | | | |
| 8 Low energy | -0.11 | -0.06 | 0.02 | -0.16 | -0.23 | 0.66 | 0.69 | | | | | | |
| 9 Dx severity | 0.18 | 0.12 | -0.09 | 0.34 | 0.40 | -0.43 | -0.40 | -0.38 | | | | | |
| 10 Angina Tx | -0.17 | -0.06 | -0.03 | -0.12 | -0.17 | 0.10 | 0.09 | 0.12 | -0.11 | | | | |
| 11 Asthma Tx | -0.07 | -0.03 | 0.01 | -0.08 | -0.10 | 0.06 | 0.06 | 0.07 | -0.07 | 0.12 | | | |
| 12 Arthritis Tx | -0.19 | -0.06 | 0.03 | -0.14 | -0.19 | 0.08 | 0.08 | 0.10 | -0.11 | 0.19 | 0.10 | | |
| 13 Diabetes Tx | -0.13 | -0.04 | 0.00 | -0.07 | -0.09 | 0.05 | 0.05 | 0.06 | -0.07 | 0.10 | 0.05 | 0.08 | |
| Min | 3.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mean | 40.64 | 0.44 | 2.85 | 0.57 | 1.05 | 0.41 | 0.33 | 0.43 | 1.12 | 0.18 | 0.10 | 0.24 | 0.08 |
| SD | 16.42 | 0.50 | 1.68 | 0.96 | 1.15 | 0.49 | 0.47 | 0.50 | 1.14 | 0.38 | 0.31 | 0.43 | 0.27 |
| Max | 120.00 | 1.00 | 7.00 | 1.00 | 4.00 | 1.00 | 1.00 | 1.00 | 4.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Note: N = 153,030; all correlations are significant at the p<0.01 level or better | | | | | | | | | | | | | |

Table 2. Treatment likelihood by each level of depression severity.

| Asthma | | | |
|--|--|-----------|--------------------|
| Coefficients: | | Estimate | |
| intercept | | -1.28 *** | |
| Age | | 0.01 *** | |
| Education | | 0.08 *** | |
| Job | | -0.17 *** | |
| Self care | | 0.09 *** | |
| Mobility | | 0.16 *** | |
| Dx symptoms | | 0.01 | |
| Dx severity | | -0.06 * | |
| Dx symptoms*Dx severity | | 0.01 | |
| N=9676 | | | |
| Probability of asthma treatment by Dx severity | | | |
| None (0) | | = | 47.06% |
| Mild (1) | | = | 45.46% [0-1] 1.60% |
| Moderate (2) | | = | 43.87% [2-1] 1.59% |
| Severe (3) | | = | 42.30% [3-2] 1.58% |
| Extreme (4) | | = | 40.74% [4-3] 1.56% |
| Note: ***! p<0.001; ****! p<0.0001 | | | |

| Angina | | | |
|--|--|-----------|--------------------|
| Coefficients: | | Estimate | |
| intercept | | -2.42 *** | |
| Age | | 0.03 *** | |
| Education | | 0.24 *** | |
| Job | | -0.31 *** | |
| Self care | | 0.07 ** | |
| Mobility | | 0.12 *** | |
| Dx symptoms | | 0.01 | |
| Dx severity | | -0.10 *** | |
| Dx symptoms*Dx severity | | 0.04 ** | |
| N=16301 | | | |
| Probability of angina treatment by Dx severity | | | |
| None (0) | | = | 45.68% |
| Mild (1) | | = | 43.17% [0-1] 2.52% |
| Moderate (2) | | = | 40.69% [2-1] 2.48% |
| Severe (3) | | = | 38.25% [3-2] 2.43% |
| Extreme (4) | | = | 35.88% [4-3] 2.38% |
| Note: ***! p<0.001; ****! p<0.0001 | | | |