INTRODUCTION

• Depression is a serious public health problem related to high social costs and risk of suicide, even in the absence of cause of death is to identify 500 million people worldwide according to the World Health Organization (WHO).\(^1\),\(^2\)
• Although efficacious and cost-effective treatments are available, non-adherence is very common, and can be one of the most significant issues for successful treatment.
• While recognizes depression is one of the chronic conditions that are on the rise improving treatment adherence among patients with depression, and about 45% never demanded the full 3-month treatment of depression.\(^3\),\(^4\)
• Only a small number of patients are in medication treatment, but are almost three times higher in low-income countries.\(^5\),\(^6\) Studies show that poor adherence leads to high costs of treatment, morbidity, health status deterioration and non-attendance, mainly due to severe symptomatology.

• There is a lack of data on the issue in Brazil, so this study investigated the association between adherence and the burden of depression in the Brazilian population.

METHODOLOGY

Data Source

• Data from the 2011 & 2012 Brazil National Health and Wellness Survey (NHWS), in 4,673, with a validated instrument, the Haushalts-gerichtige Gesundheitszusammenhänge (HHG) (H4), supplemented by CRF (computer assisted telephone interviewing) to reach those non-adherent (N = 1,170).

• Respondents recruited from an internet panel using a random stratified sampling approach. The sample was representative of the adult Brazilian population based on the data from the U.S. Census Bureau and Organisation for Economic Cooperation and Development.

Sample

• Of the 24,604 total NHWS respondents, 24,744 had a complete record of responses (96%).

Measures

• Depression and health characteristics:
  - Age, gender, marital status, education, household income, insurance type.
  - Body mass index (BMI), smoking status, alcohol use, exercise behavior. The Charlson comorbidity index (CCI) was also examined for general comorbid burden.

• Depression severity:
  - Self-report depression symptoms were measured using the Primary Care Evaluation of Mental Disorders (PMH9).

Medication Adherence

• Adherent respondents: respondents were asked if they were currently taking a prescription medication for depression.

• Morbidity-Adherence Scale (MAS-4)\(^7\) was used to categorize those with low adherence (1), medium (2) and high adherence (3) and the others (medium/high adherence, score 2) as “adhered.”

• Clinical characteristics:
  - Health-related quality of life (HRQoL), measured via the Medical Outcomes Study Short Form (SF-12v2 for 2011 NHWS, SF-36v2 for 2012 NHWS) including: Mental Component Summary (MCS), Physical Component Summary (PCS) and Health Utilities (SF-6D).

• Work productivity loss:
  - Work productivity and activity impairment (WPAI) (WPAI-GH).

• Health-related quality of life:
  - Mental component summary (MCS), Physical component summary (PCS) and Health Utilities (SF-6D).

• Summary (MCS), Physical Component Summary (PCS) and Health Utilities (SF-6D)

• Annual household income

• Education

• Employment status

• Employment status

• Work productivity and activity impairment (WPAI)

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Statistical analysis

• Kruskal-Wallis tests comparing the non-adherent respondents (1), moderate (2) and high (3) depression severity (PMH9) group to the non-adherent respondents.

• A general linear model (GLM) approach was used to test the association of adherence and other health-related quality of life (SF-36v2 and SF-12) measures and healthcare resource use (Pharmacoeconomics, hospital and emergency visits) using the squared terms for categorical variables involved in the investigation.

RESULTS

• The proportion of 1,473 respondents to the 2013 Brazilian population resulted in 16.82 people taking prescription antidepressants (20% of the total patients). Of whom 70% were classified as adherent and 25% as non-adherent. These proportions are well representing the sample (53% males)

• Most respondents were females (75%), and the mean age was 41 years for the adherent group and 48 years for non-adhesive group. Adherent respondents had higher household income, insurance and less of them were employed (see Table 1).

• The respondents reported significantly lower severe depression (27% vs. 17% with PHQ-9 score ≥ 15) compared to the non-adherent respondents (40%). The differences were significant by the PHQ-9 severity level.

• No significant difference was found.

• All results held significant after controlling for covariates (socio-demographic and health characteristics) using GLM models, except for differences in hospitalization.

DISCUSSION

• Non-adherence was significantly associated with lower educational level, working full-time, lower income, and public insurance coverage.

• Additionally, non-adherence was associated with lower mental health-related quality of life and emergency department use.

• Lastly, non-adherence was associated with greater presenteeism, which can indicate higher indirect costs.

CONCLUSION

• Non-adherence with antidepressant medication is a frequent problem for managing depression.

• While self-report may be affected by negative health outcomes, this study confirms that the proportion of non-adherence was consistent with the expected outcomes.

• In this real-world study of Brazilian patients with depression, non-adherence demonstrated to be a determinant of poor outcomes despite medication adherence and work productivity, indicating that medication adherence is an important factor in improving compliance.

• Further research needs to be conducted to help determine factors leading to non-adherence and identify interventions so adherence can be improved and negative impact lessened.

Table 1. Socio-demographic and Health Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Adherent</th>
<th>Non-adherent</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (N=2,257)</td>
<td>1,049</td>
<td>1,208</td>
<td>0.05</td>
</tr>
<tr>
<td>Female</td>
<td>755</td>
<td>693</td>
<td>0.03</td>
</tr>
<tr>
<td>Male</td>
<td>294</td>
<td>515</td>
<td>0.01</td>
</tr>
<tr>
<td>Year (N=2,257)</td>
<td>2011</td>
<td>2012</td>
<td>0.001</td>
</tr>
<tr>
<td>BSN</td>
<td>0.74</td>
<td>0.76</td>
<td>0.001</td>
</tr>
<tr>
<td>College or university</td>
<td>0.74</td>
<td>0.76</td>
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* Presentation measured by the NHWS was higher for the non-adherent group (N = 37, see Figure 3). No other significant differences for WPAI items were found.

![Figure 1. Depression severity (PHQ-9)](image1)

![Figure 2. Quality of life (SF-36v2)](image2)

![Figure 3. Work productivity loss (WPAI)](image3)

![Figure 4. Healthcare resource use](image4)

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