Comparison of the Number of Readmission Days Amongst Traditional English Speakers versus Non-English Speakers: A Single Institutional Analysis

Hiral Amin¹, Marisa Pope¹, Rameez Shahid¹, Therese Dallegro¹, Cindy Hou¹
Jefferson Health NJ¹

Background

Previous systematic reviews have shown emphasis on discharge information to reduce readmission rates while a prospective study showed limited English proficiency and low education levels to increase the chances of misinterpreting discharge information [1,2]. There have not been many studies associating English proficiency with readmission rates.

Methods

We obtained IRB approval through our institution. Then we conducted a retrospective review of patients who were readmitted to the Jefferson New Jersey hospitals within 30 days between July 1 2020 to June 30 2022 utilizing the Qlik App. The app identified patients who met the criteria of readmission within our study timeframe. We collected information such as age, race, length of stay, admission primary diagnosis, amount of readmission days per primary diagnoses, and English versus non-English preferred language. We used an independent T-test for our statistical analysis.

Results

We identified 5445 patients meeting our criteria of which 5246 (96.3%) patients’ preferred language was English while 199 (3.7%) patients had Non-English preferred language. We performed an independent Sample T-test to compare the average days of readmission for each principle diagnosis comparing Non-English patients and English speaking. We found there to be a significant difference between Non-English patients and English-speaking readmission patients (two-sided p-value: 0.003; 95% CI -129, 203) when sum of variances are not assumed.

Table 1. Independent T test of Sum of Readmission Days of English vs Non English Speakers. Equal variances are not assumed.

<table>
<thead>
<tr>
<th>Levene Test for Equality of Variances</th>
<th>T Test for the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Equal variances</td>
<td>.435</td>
</tr>
</tbody>
</table>

Conclusion

We found a significant difference between readmission days for non-English patients when compared to English-speaking patients. However, we have a drastically higher proportion of patients in the English proficient arm than the non-English proficient arm which is our confounding factor. Future studies looking at multi-center studies may help highlight the significant differences between readmission rates amongst English and non-English proficient populations.

References