Assessment of asthma outcomes among children with and without a timely physician diagnosis of asthma

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Methods

Results

Table 1. Comparison Demographics and Clinical Characteristics between Timely Diagnosis and Delayed Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>N 808</th>
<th>N 590</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>479 (59%)</td>
<td>363 (62%)</td>
</tr>
<tr>
<td>Female</td>
<td>329 (41%)</td>
<td>227 (38%)</td>
</tr>
<tr>
<td>White</td>
<td>632 (78%)</td>
<td>472 (80%)</td>
</tr>
<tr>
<td>Black</td>
<td>177 (22%)</td>
<td>118 (20%)</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Conclusions

A delayed diagnosis of asthma is common among children with recurrent asthma-like symptoms.

Over 60% of total asthma ED visit and/or hospitalization is happening in the first year after asthma index date, but median days between index date and physician diagnosis is 462 days.

Compared to TD, while DD group had a lower odds of poor asthma outcome events, at 1 year after index date, this gap seems to catch up gradually.

Given significant number of delayed diagnosis despite of recurrent asthma symptoms, long-term and broad range of impact of delayed diagnosis on asthma morbidity and comorbidities may be warranted.

If clinically less frequent exacerbation of asthma symptoms in children is one of main reasons of delayed diagnosis, an innovation tool to capture asthma symptoms and comorbidities documented in medical records such as Natural Language Processing for automated chart review may be helpful and necessary.

Strengths

This was a population-based birth cohort study that used NLP algorithm for ascertaining asthma and asthma exacerbation in timely manner.

Limitations

Not including all patients in cohort.

Only limited asthma outcomes to ED-hospitalization. Other measures including lung function measures, ACT (oral corticosteroids use and flu vaccine etc.) were not included.

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