Feel the Burn: GERD Symptoms in College Population
Krista Buchanan, Rachel Egbert, Katlin Fleischut, Kathleen Fogle, Michelle Griffin, Carolyn Novaleski, Marian Shovlin, Pamela A. Smith, Ph.D., CCC-SLP
Bloomsburg University: Bloomsburg, PA

Background
• Gastroesophageal reflux disease (GERD) is a condition of frequent backflow of stomach contents into the esophagus.1
• Laryngopharyngeal reflux (LPR) differs from GERD in that stomach contents reenter the throat.2
• Both GERD and LPR may contribute to development of laryngeal and voice disorders.
• GERD has been found in 80% of patients with dysphonia.3
• As many as 50% of patients with voice disorders may have LPR.2 LPR was found to cause significant voice problems in patients similar to those caused by vocal fold polyps.4
• Current recommended treatment of GERD includes lifestyle modifications, particularly dietary restrictions.5
• Most research focused on GERD in adult and pediatric populations; younger adults have not been targeted for study.
• The purpose of this study was to determine if reported GERD symptoms are common among college students and if students engage in lifestyle behaviors that may put them at risk of GERD.

Methods
• 273 Bloomsburg University undergraduate students (68 males, 205 females)
• Completed a 35-item survey.
• Survey was divided into four sections:
  1. Demographic information
  2. Eating behaviors
  3. Symptoms of LPR/GERD
  4. Foods consumed
• 9-item Reflux Symptom Index ranging from 0 = no problem to 5 = severe problem was used to measure symptoms of LPR.2
• A 6-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree was used.
• Surveys were administered during classes in general education courses and collected immediately after completion.
• Incentives for participation included extra credit in select courses.
• Date were analyzed using chi-square tests.

Research Questions
1. Are symptoms of GERD and LPR prevalent among college students?
2. Are college students knowledgeable about GERD?
3. How frequently do college students consume foods or beverages that are believed to trigger episodes of reflux?
4. Are there demographic differences in eating habits?

Results

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoarseness or a problem with your voice</td>
<td>0.70</td>
<td>1.08</td>
</tr>
<tr>
<td>Clearing your throat</td>
<td>1.49</td>
<td>1.32</td>
</tr>
<tr>
<td>Excess throat mucus or postnasal drip</td>
<td>1.59</td>
<td>1.60</td>
</tr>
<tr>
<td>Difficulty swallowing food, liquids, or pills</td>
<td>0.48</td>
<td>0.96</td>
</tr>
<tr>
<td>Coughing after you ate or after lying down</td>
<td>0.56</td>
<td>1.10</td>
</tr>
<tr>
<td>Breathing difficulties or choking episodes</td>
<td>0.44</td>
<td>0.95</td>
</tr>
<tr>
<td>Troublesome or annoying cough</td>
<td>0.83</td>
<td>1.29</td>
</tr>
<tr>
<td>Sensation of something sticking in your throat or lump in your throat</td>
<td>0.97</td>
<td>1.28</td>
</tr>
<tr>
<td>Heartburn, chest pain, indigestion, or stomach acid coming up</td>
<td>1.12</td>
<td>1.46</td>
</tr>
</tbody>
</table>

Note. The values represent rating scale of self-reported symptoms of LPR. The mean scores on the Reflux Symptom Index indicate that the majority of participants did not report experiencing problems related to symptoms of LPR or GERD. The rating scale ranged from 0 = no problem to 5 = severe problem.

Gastroesophageal reflux disease (GERD) is a condition of frequent backflow of stomach contents into the esophagus.1 Laryngopharyngeal reflux (LPR) differs from GERD in that stomach contents reenter the throat.2 Both GERD and LPR may contribute to development of laryngeal and voice disorders.3 GERD has been found in 80% of patients with dysphonia.4 As many as 50% of patients with voice disorders may have LPR.2 LPR was found to cause significant voice problems in patients similar to those caused by vocal fold polyps.4 Current recommended treatment of GERD includes lifestyle modifications, particularly dietary restrictions.5 Most research focused on GERD in adult and pediatric populations; younger adults have not been targeted for study.

The purpose of this study was to determine if reported GERD symptoms are common among college students and if students engage in lifestyle behaviors that may put them at risk of GERD.

The majority of participants who reported consuming trigger foods and beverages in moderate amounts. The most frequently reported (5 to 7 days per week) items included caffeinated beverages, carbonated beverages, and fatty foods.

Male participants were more likely than female participants to disagree that they are slow eaters, χ²(2, N = 273) = 17.34, p < .001.

Participants who reported being diagnosed with GERD were more likely to indicate hoarseness or problem with their voice as more severe of a problem within the past month than participants who did not report diagnosis, χ²(1, N = 273) = 6.33, p < .05.

![Diagram](image)

This research was supported by Bloomsburg University NSSLHA.

Conclusion
• Few participants indicated experiencing problems on Reflux Symptom Index, suggesting that symptoms of GERD are uncommon among college students.
• Small percentage (5.5%) of participants reported being diagnosed with GERD.
• Participants with reported diagnosis of GERD were more likely to report problems with their voice, suggesting that they may be at higher risk of developing voice disorders. These participants may require more assistance with managing their reported symptoms.
• Participants who reported diagnosis were more likely to agree with experiencing throat/chest pain after eating and waking up in night with throat/chest discomfort.
• Only 5% of participants correctly named what GERD stands for and for less than 1/3 of participants indicated that they knew what the Little Purple Pill is. These results suggest that college students lack knowledge about GERD.
• Participants reported moderate consumption of foods and beverages believed to trigger GERD.
• Differences in eating behaviors were found between male and female participants. Females were more likely to report feeling full after eating quickly and males were less likely to agree that they are slow eaters.
• Results indicate that GERD symptoms are not prevalent in college population.
• A small percentage of participants who reported having GERD may be more at risk of developing voice disorders.
• Findings suggest that college students lack awareness about GERD and may benefit from further education.

Future Directions
• Obtain larger group of participants diagnosed with GERD to make comparisons with those who are undiagnosed.
• Survey college students’ awareness about vocal health.
• Educate college students about GERD and potential effects on voice quality.

References