Knowledge and Attitude of Antibiotic Use Amongst College Students
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BACKGROUND

The Centers for Disease Control and Prevention (CDC) has declared antibiotic resistance as a global public health crisis. One of the most prominent contributing factors to antibiotic resistance is the inappropriate use of antibiotics. In a study published by the American Psychological Association in the Health Psychology Journal, a physician is more likely to prescribe antibiotics to patients who are expecting their physician to prescribe them antibiotics even if the infection may not be bacterial in nature. Non-adherence to completing the full course of an antibiotic therapy can also contribute to antibiotic resistance.

OBJECTIVES

The primary objective of this study is to evaluate the knowledge and attitude of antibiotic use amongst college students at St. John’s University. The secondary objectives are to assess if students from various colleges (majors) or ethnicities may have implications to differences in the results.

METHODS

This study was IRB approved by St. John’s University. A voluntary, anonymous, 10-item, paper survey was administered to students from all colleges at St. John’s University during an Antibiotic Awareness Event hosted by the American Pharmacists Association Academy of Student Pharmacists (APHA-ASP) on November 16, 2017. Upon completion of the survey, students were entered in a raffle to win a $50 Amazon gift card.

The 10-item survey included 2 questions to assess for baseline demographics (major and ethnicity), 4 questions (true, false, or don’t know) to assess for basic knowledge of antibiotics, and 4 questions (5-point likert scale ranging from strongly agree to strongly disagree) to assess for attitudes towards antibiotic use. Quantitative analysis was used to sum up the results.

The average score for basic antibiotic knowledge was 75.1% (58.3%-100%). 24.5% (49/200) of the respondents expect a doctor to prescribe antibiotics when they have a cold. 37.5% (75/200) admit to stopping antibiotics prematurely when they feel better. 10% (20/200) give their antibiotics to someone who is sick and 8.5% (17/200) feel that it is acceptable to share antibiotics.

RESULTS

Table 1a. Breakdown of Colleges (n=200)

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Actual #</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Pharmacy &amp; Health Sciences</td>
<td>81</td>
<td>40.5</td>
</tr>
<tr>
<td>St. John's College of Liberal Arts &amp; Sciences</td>
<td>52</td>
<td>26</td>
</tr>
<tr>
<td>The School of Education</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>The Peter J. Tobin College of Business</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>College of Professional Studies</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>School of Law</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Table 1b. Breakdown of Ethnicities (n=200)

<table>
<thead>
<tr>
<th>Ethnicities</th>
<th>Actual #</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White/Caucasian/Middle Eastern</td>
<td>55</td>
<td>27.5</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>Black/African American/Caribbean</td>
<td>14</td>
<td>7.0</td>
</tr>
<tr>
<td>Asian (including Indian subcontinent)</td>
<td>75</td>
<td>37.5</td>
</tr>
<tr>
<td>Mixed</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

CONCLUSION

Survey results revealed a 24.9% deficit in knowledge and a 34.9% inappropriate attitude of antibiotic use amongst college students. These results were more prominent in non-health sciences related colleges and non-Asian ethnicities. Specific knowledge gaps include indications of antibiotics, when to expect antibiotic prescriptions from doctors, and adherence to antibiotics once prescribed.

This study suggests that education on the appropriate use of antibiotics geared towards college students is necessary in order to effectively combat antimicrobial resistance. Specifically at St. John’s University, ideas for future education opportunities include campus-wide posters and online videos made available on the MySJU website to promote the appropriate use of antibiotics. Trivia events and health workshops can also be held during common hour or after-class hours for this cause. Social media can also be used to spread the awareness of antibiotic resistance. The College of Pharmacy and Health Sciences can coordinate interprofessional education activities within this purpose. These activities are all examples of antimicrobial stewardship at the community level, which can be implemented at all college campuses.

Limitations to this study include that our survey questions have not been validated, statistical analysis was not performed to demonstrate statistical significance, and the number of students per college and ethnicity was unevenly distributed.

REFERENCES


CONCLUSION

The authors of this research declare that there are no financial disclosures.