2015 Antibiotic Stewardship in Dentistry: Antibiotic Use Survey Among MN Dentists

SUMMARY REPORT

Methodology

In September 2015, Minnesota Department of Health (MDH) distributed a survey through a secure online platform to assess antibiotic use knowledge among Minnesota (MN) dentists in an effort to inform antibiotic stewardship (AS) efforts. The survey instrument was developed in partnership with the Minnesota Board of Dentistry (MBOD) and Minnesota Dental Association (MDA). The survey was emailed to a list of members, which encompassed approximately 2,800 dentists and 70% of licensed MN dentists. Reminder emails were sent to non-responders four times during a two-month period.

Results

- 437 dentists completed the survey (16% response rate). (Table 1)

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>297</td>
<td>68</td>
</tr>
<tr>
<td>Caucasian</td>
<td>382</td>
<td>90</td>
</tr>
<tr>
<td>Reside in Minneapolis-St. Paul Metropolitan Area</td>
<td>257</td>
<td>58</td>
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<tr>
<td>Own Solo Practice</td>
<td>192</td>
<td>44</td>
</tr>
<tr>
<td>In-Practice &gt;20 Years</td>
<td>275</td>
<td>63</td>
</tr>
<tr>
<td>Certified in a Specialty</td>
<td>65</td>
<td>15</td>
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</tbody>
</table>

- Monthly median of four antibiotic prophylaxis prescriptions and five antibiotic treatment/therapy prescriptions.
- Amoxicillin and penicillin were the most commonly reported first-line antibiotics.
- Respondents reported greater antibiotic use than currently recommended by existing guidelines. (Table 2)
- The most common scenarios to prescribe an antibiotic included invasive procedures (84%) and localized swelling (70%).
- Nonclinical factors for prescribing antibiotics included precautionary measure for patients going on vacation (38%), gum pain (38%), legal or liability concerns (24%), and patient demand (22%).
- Guidelines (79%) and primary care physician recommendations (64%) were the most common factors that influenced decisions to prescribe antibiotics.
- 68% of dentists verbally provided information to patients about possible antibiotic side effects or adverse reactions and actions to take.
- Dentists showed an interest in educational campaigns and learning more about antibiotic selection and risk, including adverse drug effects, *Clostridioides difficile* infection, and antibiotic resistance.

<table>
<thead>
<tr>
<th>Antibiotic Prophylaxis Recommendations</th>
<th>Antibiotic Treatment Recommendations</th>
<th>Antibiotic Selection</th>
<th>Reported Challenges to Antibiotic Use Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported use compared to recommendations for selected heart conditions</td>
<td>Reported use compared to suggested clinical considerations</td>
<td>Reported use compared to clinical guidelines</td>
<td>Reported challenges highlight need for stewardship efforts (e.g., perceived guideline differences)</td>
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<td>Reported use compared to recommendations for prosthetic joints</td>
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Discussion and Next Steps

- Key recommendations for antibiotic prescribing were revised in 2007 and 2015 on the basis of increasing evidence for more restrictive antibiotic use. More educational efforts to inform dentists of guideline changes should be addressed.
- A lack of information concerning antibiotic selection and awareness about antibiotic risks highlight the need for improved antibiotic stewardship interventions within dentistry.
- Common antibiotic use challenges included perceived conflicting provider guidelines, conflicting scientific evidence, and a lack of information on antibiotic selection or risks.
- This survey has made MDH, MBOD, and MDA more aware of the knowledge, practices, and challenges of antibiotic stewardship among MN dentists.
- MDH, MBOD, and MDA will continue to work together on the development and promotion of antibiotic stewardship resources and tools for dentists.
- This study has been published in General Dentistry.¹
- If you would like to work with us to improve antibiotic stewardship, please email health.stewardship@state.mn.us.

Antibiotic Use Guidelines for Dentistry


References


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To obtain this information in a different format, call: 651-201-5414.