DPBRN 15: Blood Glucose Testing in Dental Practice

Summary of Overall Results-Graphs

Date Prepared: July 11, 2011
A. Patient Screening Questionnaire

1. Patient Gender
   1. Male
   2. Female

- Overall, 55% of patients were female.
3. Patient ethnicity

1. Not reported or unknown (I do not wish to provide this information)
2. Hispanic or Latino
3. Not Hispanic or Latino

- 4% of patients whose ethnicity was available were of Hispanic/Latino ethnicity, notably higher in FL/GA at about 11%.
4. Patient race
1. Not reported or unknown (I do not wish to provide this information)
2. White
3. Black or African-American
4. American Indian or Alaska Native
5. Asian
6. Native Hawaiian or Other Pacific Islander
7. Other

- 84% of patients were White, about 10% Black/African-American, with considerable differences by region: SK 100% White and AL/MS being 31% Black/African-American.
5. Does the patient have any dental insurance or third party coverage?
   1. Yes
   2. No

- Overall, about 83% had some type of dental insurance, all of SK and only about 65% in FL/GA.
7. If the patient is in the overweight range, check below:

1. Overweight (refer to chart)

- Approximately 77% of the patients were classified as overweight, ranged from 67% (SK) to about 86% (PDA).
8. **ASK:** Has a doctor ever told you that you have (check all that apply):

1. High blood pressure
2. High cholesterol
3. Diabetes
4. Pre-diabetes

<table>
<thead>
<tr>
<th>Condition</th>
<th>AL/MS</th>
<th>FL/GA</th>
<th>MN</th>
<th>PDA</th>
<th>SK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Blood Pressure</td>
<td>43</td>
<td>41</td>
<td>33</td>
<td>24</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>41</td>
<td>34</td>
<td>33</td>
<td>25</td>
<td>10</td>
<td>28</td>
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<tr>
<td>Diabetes</td>
<td>12</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Pre-Diabetes</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

- 33% of patients reported high blood pressure, ranged from 24-25% (PDA and SK) to 43% (AL/MS).
- 28% of patients reported having high cholesterol, lowest in SK at 10% and highest in AL/MS at 41%.
- 15% of patients reported having diabetes or a pre-diabetic condition/status.
- Nearly 86% of patients were considered at increased high risk for diabetes, or had diabetes, and thus eligible for glucose screening.

- 1.6% of eligible patients declined the opportunity to participate.
The overall average blood glucose level reading was 111 mg/dL, ranged from 50 to 465.

Overall, about 25% of patients had blood glucose levels greater than or equal to 120 mg/dL.
B. Patient Survey

1. Overall, I think blood sugar testing in the Dental Office is a good idea.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

Almost 83% of patients felt blood sugar testing in the dental office was a good idea by selecting either the “agree” or “strongly agree” categories.
2. Having my blood sugar tested today was easy.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- 97% of patients agreed/strongly agreed that the blood sugar test was easy.
3. This test gave me useful information.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- 91% of responding patients agreed the test provided useful information.
4. Testing for glucose shows a high level of care in this office.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- 90% of patients agreed testing for glucose showed a high level of care, ranged from 85% PDA to 93% AL/MS and SK.
5. I am more likely to refer friends and family to this practice because blood sugar testing is offered here.

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

- 62% of patients were more likely to refer patients, with considerable differences by region: SK at 75% and MN and PDA at 46% and 47% consecutively.
C. Dentist/Staff Questionnaire

1. Patients with no diabetes but high glucose will benefit from testing in the dental office.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

Overall, about 85% of respondents agreed/strongly agreed that blood sugar testing was beneficial to patients with high glucose levels.
2. Patients with diabetes may get better glucose control if tested in the dental office.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- Over 69% of respondents agreed patients could get better glucose control by testing in the dental office.
3. Glucose reading will help determine the timing of invasive dental procedures.

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

About 60% of respondents agreed glucose reading was relevant to the timing of dental procedures.
4. Glucose testing will identify patients at high risk for periodontal disease.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- Overall, about 75% of respondents agreed/strongly agreed glucose testing will identify patients at high risk for periodontal disease.
5. Tested patients develop increased confidence in the practice and perceived an increased importance of their general health to their dental treatment.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- 88% of respondents agreed testing patients increased both confidence and the importance of their general health to their dental treatment.
Potential negative aspects

6. Glucose testing is time-consuming
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree


![Question 6: Testing is Time-Consuming](image)

- 22% of respondents agreed testing was time consuming.
7. Glucose testing is too expensive to do in dental practice.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- Only 4% of respondents agreed glucose testing was too expensive.
8. Glucose levels are not relevant to dental practice
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

Only 3%* of respondents agreed glucose testing was not relevant to dental practice.

*The table indicates 4% due to rounding errors. Technically 1.5% agreed and 1.5% strongly agreed totaling 3%.
9. Patients were unhappy that my practice did glucose screening.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

- Over 4% of respondents agreed patients were unhappy about the glucose screening.
10. Glucose testing opens the practice to liability suits.
   1. Strongly Disagree
   2. Disagree
   3. Neutral
   4. Agree
   5. Strongly Agree

<table>
<thead>
<tr>
<th></th>
<th>AL/MS</th>
<th>FL/GA</th>
<th>MN</th>
<th>PDA</th>
<th>SK</th>
<th>Total</th>
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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>47</td>
<td>58</td>
<td>33</td>
<td>17</td>
<td>38</td>
<td>45</td>
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<tr>
<td>Disagree</td>
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<td>17</td>
<td>25</td>
<td>50</td>
<td>38</td>
<td>27</td>
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<tr>
<td>Neutral</td>
<td>18</td>
<td>25</td>
<td>42</td>
<td>33</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- Overall, about 4% of respondents agreed glucose testing opened the practice to liability suits.
D. End of Study Practice Survey of Practitioner-Investigator

1. Who performed the blood sugar testing in your practice? (Check all that apply).

1. Dentist
2. Hygienist
3. Dental Assistant
4. Other

Percents will total more than 100 due to multiple answer choices.

- In the 28 practices, the blood glucose testing was performed by 68% of the dentists, 25% of hygienists, about 61% dental assistants, and 7% categorized as “other”.
2. Where was the testing performed? (Check all that apply)

1. Regular dental operatory
2. Hygienist’s operatory
3. Exam only operatory
4. Other location

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<tr>
<td>Regular dental operatory</td>
<td>83</td>
<td>83</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>93</td>
</tr>
<tr>
<td>Hygienist’s operatory</td>
<td>50</td>
<td>83</td>
<td>40</td>
<td>17</td>
<td>0</td>
<td>39</td>
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<tr>
<td>Exam only operatory</td>
<td>17</td>
<td>17</td>
<td>0</td>
<td>0</td>
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<td>Other location</td>
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<td>17</td>
<td>20</td>
<td>0</td>
<td>20</td>
<td>11</td>
</tr>
</tbody>
</table>

Overall, about 93% of the blood sugar testing was performed in a regular dental operatory. 39% of the blood sugar testing was done in a hygienist’s operatory. AL/MS and FL/GA were the only regions to perform the testing in an exam only operatory at about 17% each, yielding an overall total of 7%. The testing was performed at a location considered as “other” about 11% overall.

¹Percents will total more than 100 due to multiple answer choices.
3. Was the testing well-received by patients?

1. Yes
2. No

- All respondents agreed the testing was well-received by patients.
4. Was testing easy to perform by the end of the study?

1. Yes
2. No

- All respondents agreed the testing was easy to perform by the end of the study.
5. How long did the testing for each patient last on average by the end of the study?

1. <2 min
2. 2-5 min
3. >5 min

- 64% of testing required 2 – 5 minutes.
6. Was testing disruptive to the regular run of the practice by the end of the study?

1. Yes
2. No

- Over one-third of respondents agreed the testing was disruptive.
7. Do you now feel that routine blood glucose testing is:

1. Beneficial to the practice
2. Detrimental to the practice
3. Indifferent

Overall, 82% of respondents agreed glucose testing is beneficial.
8. Do you think routine blood glucose testing for patients at risk for or diagnosed with diabetes should be implemented in dental practice?

1. Yes
2. No

- About 93% of respondents agreed glucose testing should be implemented in dental practice for patients diagnosed with or at risk for diabetes.
9. What barriers MUST be overcome before you would do routine blood glucose testing in your practice in the future? (Check all that apply)

1. Insurance companies must provide reimbursement for testing
2. The testing procedure would have to be easier
3. Patients would have to be more demanding of it
4. Other

| Question 9: Barriers to Overcome |
|-------------------------|----------|--------|--------|--------|--------|--------|--------|
|                        | AL/MS    | FL/GA  | MN     | PDA    | SK     | Total  |
| Insurance reimbursement| 83       | 50     | 75     | 50     | 40     | 59     |
| Testing made easier    | 0        | 0      | 0      | 17     | 0      | 4      |
| Patients more demanding | 17      | 17     | 25     | 17     | 60     | 26     |
| Other                   | 17       | 83     | 0      | 67     | 40     | 44     |

- The most common barrier to overcome in order to allow testing is insurance reimbursement at 59%.