Evaluating the Quality and Readability of Thyroplasty Information on the Internet

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INTRODUCTION

Medialization thyroplasty is a procedure used to treat glottal insufficiency associated with unilateral vocal fold motion impairment, vocal fold bowing, and soft tissue deficits. It is one of the most common surgeries performed by a laryngologist. In a survey of ~950 otolaryngologists over 25,000 thyroplasties were performed in the past 10 years.2 During this procedure, an external approach is used to insert an alloplastic implant to close the glottis gap and improve the patient’s voice.1 (figure 1)

Since the procedure is performed under local anesthesia, it is essential for the surgeon to keep patients calm and to manage their fear and anxiety. Thus, patient education is very important for this operation to ensure patient cooperation intra-operatively and to ensure a good outcome. This task can be more difficult if the patient is misinformed about the procedure.

In 2003, the Pew Research Center reported that 80% of internet users have searched online for health information.3 However, websites and other online resources can provide false and misleading information. These sources are seldom peer reviewed; therefore, quality is a major problem.4

Readability is another issue for medical information. Since the average American adult reads at an 8th grade level, the American Medical Association (AMA) and National Institutes of Health (NIH) recommend that health education materials should be written between a 4th–6th grade level.5,6 However, this practice is rarely followed. Studies in various fields found that most of the medical literature is written at an exceedingly high reading level.7-11

This goal of this study was to critically evaluates online thyroplasty information for quality and readability.

METHODS

A Google search using the term “thyroplasty treatment” for conducted. The first fifty websites were analyzed using the DISCERN instrument, Flesch Ease of Reading Score (FRES), and Flesch Kincead Grade Level (FKGL). DISCERN is a 16 item validated questionnaire used to assess the quality of written health information for the patient. FRES and FKGL are commonly used instruments to assess readability of written information. Websites were also divided into major versus minor, and patient targeted versus professional targeted for further analyses.

RESULTS

Overall DISCERN score was 2.20±0.60. Overall FRES was 29.68±16.64. Overall FKGL was 13.07±3.95. There were significant differences between the patient targeted and professional targeted websites on FRES (43.80 ± 2.70 and 18.58 ± 9.04, respectively) and FKGL (11.46 ± 3.36 and 14.33 ± 4.30, respectively) with P-values of <0.00 and 0.01, respectively. There were significant differences between the major and minor websites on DISCERN (2.35 ± 2.35 and 1.95 ± 0.61, respectively), FRES (24.75 ± 14.61 and 37.71 ± 16.97, respectively), and FKGL (14.19 ± 3.68 and 11.24 ± 3.77, respectively) with P-values of 0.03, 0.01, and 0.01, respectively.

Conclusion: Thyroplasty information available online is not of high quality. Furthermore, it is written at a level too difficult for the average American adult to read comfortably. Major websites have higher quality information, but were more difficult to read. Professional targeted websites were also more difficult to read than patient targeted websites.

DISCUSSION

This study is the first to systematically evaluate the quality and readability of thyroplasty information online. We found that thyroplasty information available online is of poor to moderate quality. The average FKGL score indicates that the reading level is slightly above the 13th grade, which is beyond the AMA recommended 4th to 6th grade level. This means that the information available to patients online; in content and readability. However, it is not unexpected given that researchers have consistently found information online ranging from very poor to good quality and difficult to very difficult in readability.14-16

When we separated the patient oriented from the professional oriented websites, we found that the patient oriented websites were easier to read; however, the material was still written above the recommended sixth grade level. The DISCERN score for the patient oriented material was lower than the professional oriented material, but not significantly. These results indicate that while the material intended for patients are significantly easier to read, they may sacrifice some quality.

When we divided the websites into major and minor sources, we found that the major websites had higher DISCERN scores, indicating that they are of better quality. The major websites also had a lower FRES and higher FGKL scores, indicating that they are more difficult to read. It is not surprising that major websites such as those from academic institutions are of better quality and that, in order to present the better material, use more sophisticated language. Still, both major and minor websites are written at a level above the recommended sixth grade reading level.

CONCLUSIONS

Thyroplasty information available online is of suboptimal quality. Furthermore, it is written at a level too difficult for the average American adult to read comfortably. Major websites have higher quality information, but were more difficult to read. Professional targeted websites were also more difficult to read than patient targeted websites.

REFERENCES


CONTACT

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Figure 1: Thyroplasty Procedure

Table 1: DISCERN, FRES, and FGKL scores for thyroplasty websites

<table>
<thead>
<tr>
<th>Measurement Tool</th>
<th>DISCERN</th>
<th>FRES</th>
<th>FGKL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
<td>Range</td>
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<tr>
<td>DISCERN</td>
<td>2.20</td>
<td>0.60</td>
<td>1.06-3.19</td>
</tr>
<tr>
<td>FRES</td>
<td>29.68</td>
<td>16.64</td>
<td>2.70-72.00</td>
</tr>
<tr>
<td>FGKL</td>
<td>11.46</td>
<td>3.95</td>
<td>6.00-16.00</td>
</tr>
</tbody>
</table>

Table 2: Professional versus patient oriented websites

<table>
<thead>
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<th>Number</th>
<th>Patient oriented</th>
<th>Professional</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>48%</td>
<td>52%</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>43.80 ± 2.78</td>
<td>18.58 ± 9.04</td>
<td>14.16 ± 3.36</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

Table 3: Major versus minor websites

<table>
<thead>
<tr>
<th>Number</th>
<th>Major</th>
<th>Minor</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>62%</td>
<td>36%</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>23.25 ± 2.35</td>
<td>19.75 ± 2.35</td>
<td>14.19 ± 3.68</td>
<td>0.01*</td>
</tr>
</tbody>
</table>