Psychosocial Assessment of Voice Problems among Saudi Teachers

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ABSTRACT

Background and Objectives: The teaching voice and its impact on the teaching profession have gained a special interest in several studies that are concerned with occupational voice disorders. This study aimed to explore the prevalence of voice problems among teachers in Riyadh city through studying the association between Voice Handicap Index (VHI) scores and different factors believed to have an influence on voice.

Design: Cross-sectional study.

Subjects and Methods: The Arabic VHI and a general questionnaire about voice disorders were distributed to a random sample of Saudi teachers in Riyadh city. The study included 416 teachers with a mean age of 34.3 ± 5.2 years. Statistical differences between the VHI scores of the teachers regarding different variables related to the teaching profession were investigated.

Results: Thirty-three percent of teachers in Riyadh city reported having voice problems. Teachers who reported the presence of certain living habits, teaching characteristics, and voice-related symptoms had significantly higher VHI scores compared to other teachers.

Conclusion: Voice problems seem to be a prevalent disorder among teachers in Riyadh city. Such a condition could have a negative impact on the teaching profession. There appear to be many risk factors that can significantly affect the voice quality of teachers.

Key words: occupational voice disorders, teachers, voice disorders, Voice Handicap Index

Voice problems have been reported to have a significant impact on the physical, psychological, occupational, and social spheres of an individual.1,2 A multifactorial genesis was found to be related to these voice disorders.3–5 Vocal misuse and abuse,4,6–8 environmental factors,5,9,10

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physical factors, and psychoemotional factors were reported to have a negative influence on the voice and cause voice disorders. Such voice disorders have been observed to be associated with negative psychological, social, physical, occupational, and communicational impacts on the patient. It is important to include those issues in the assessment and management of voice problems.

The World Health Organization defined “handicap” as a restriction of participation of an activity that is normally performed by the person. With regard to voice disorders, this has been interpreted as a reduction in or avoidance of voice activities by the person, which results in an occupational or economic consequence.

Clinical laryngeal examination and voice analysis have been found to be inadequate for assessing the degree of handicap or what the person perceives as the result of a voice disorder. To bridge this gap, the Voice Handicap Index (VHI) was developed and validated by Jacobson and colleagues to quantify the psychosocial consequences of voice disorders. It consists of 30 statements, which describe the psychosocial impact of a subject’s voice problem. This inventory is grouped into three domains, which represent the functional, emotional, and physical aspects of voice, each consisting of 10 statements. Every statement is rated on a 5-point equal-appearing ordinal scale that ranges from 0 (never) to 4 (always). Recently, an Arabic version of the VHI was developed and modified for Arabic-speaking voice patients.

Professional voice users are those who depend on their voices for their occupation. Various studies have reported that voice problems are very common in professional voice users, especially teachers. Moreover, teachers have been observed to report a higher rate of voice problems compared to professionals in other occupations, and they have been considered among those at greatest risk for vocal handicap.

This study aimed to explore the prevalence of voice problems among teachers in Riyadh city through studying the association between VHI scores and different factors believed to have an influence on voice.

**Subjects and Methods**

This cross-sectional survey study was approved by the Research Center, Medical College, King Saud University, and its ethical committee. Two questionnaires, the Arabic VHI and a general voice questionnaire developed by the authors based on other related studies in addition to their experience (Appendix 2), were distributed to a random sample of 540 teachers in Riyadh city. The sample size was estimated according to Raosoft, with a margin of error of 5%, a confidence level of 95%, and a response distribution of 50%. The selection of the sample was done using the stratified random sampling method.

Three male and three female schools were selected randomly from each of the nine regions of Riyadh city (central, north, south, west, east, Shifa, Rawabi, Badeea, and National Guard). Ten teachers from each school were then randomly selected from each school to be included in the study. Inclusion criteria were teachers who were actively participating in teaching elementary, intermediate, or secondary schools. The Arabic VHI and the general voice questionnaire were self-administered by the teachers.

The variables in the general voice questionnaire that were addressed in this study were distributed under five main categories: (1) demographic and social status data, including age, sex, marital status, and number of offspring; (2) factors related to teaching information, including years of experience, course taught, teaching level, number of students in the class, and number of sessions per week; (3) impact of voice problems on the teaching career, including frequent absenteeism from school and thinking of leaving the career of teaching; (4) voice-related symptoms, including change in voice, loss of voice, and voice fatigue; and (5) living habits, including loud voice during regular speech and smoking.

Nonparametric tests were used for comparing different variables included in the general questionnaire and the VHI scores. The Mann-Whitney test was used for comparison between two variables, and the Kruskal-Wallis test and the Dunn post hoc test were applied for comparison between more than two variables. The *Statistical Package for the Social Sciences*, version 11 (SPSS Inc, Chicago, IL), was used for all statistical analyses. The level of significance was set at $p \leq 0.05$.

**Results**

**Subjects**

Of the 540 distributed questionnaires, 428 were collected. Twelve questionnaires were excluded because of incomplete data, so 416 teachers were included in this study. The response rate, therefore, was 78%. The study sample was composed of 222 female (53.4%) and 194 male (46.6%) teachers, with a mean age of 34.9 years (SD 6.5 years) for males and 33.7 years (SD 3.6 years) for females. Thirty-three percent of the teachers reported a voice problem at the time of the investigation.
Demographic Data and Living Habits

Table 1 shows a comparison between the teachers regarding the demographic and social status data. Subjects were classified into three subgroups regarding their ages. There was no significant difference between the mean values of the VHI scores among teachers regarding their age groups ($p > .05$).

More females than males participated in this study. However, no significant statistical difference was demonstrated among the participants regarding their genders. Also, there was no significant difference between the study groups regarding their marital status and the number of offspring they have.

The VHI results based on the teachers’ living habits are reported in Table 2. There was a significant statistical difference ($p < .001$) between the VHI scores for teachers who reported that they have a loud speaking voice and those who did not report having this habit. Although teachers who smoke reported higher VHI scores than those who do not, the difference did not reach a statistically significant level.

Teaching Characteristics

The results of comparing the VHI scores in the study group regarding the teaching characteristics are shown in Table 3. Significantly lower VHI scores were reported among teachers who have more years of teaching experience ($\geq 20$ years) than those with less than 10 years of experience or those whose experience ranged from 10 to 20 years ($p < .05$).

Teachers in the primary schools had significantly lower VHI scores than those teaching in secondary and intermediate schools ($p < .01$). Regarding the courses taught, no significant difference was reported between the VHI scores of the participants. Similarly, there was no

Table 1. Voice Handicap Index Results Based on the Demographic Data of the Teachers ($N = 416$)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>Mean VHI</th>
<th>SD</th>
<th>Test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>194</td>
<td>16.6</td>
<td>20.7</td>
<td>.71</td>
</tr>
<tr>
<td>Female</td>
<td>222</td>
<td>16.3</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>Age (yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 30</td>
<td>59</td>
<td>17.4</td>
<td>19.3</td>
<td>.08</td>
</tr>
<tr>
<td>30–39</td>
<td>302</td>
<td>16.7</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>&gt; 40</td>
<td>55</td>
<td>13.9</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>48</td>
<td>22.2</td>
<td>25</td>
<td>.24</td>
</tr>
<tr>
<td>Married</td>
<td>356</td>
<td>15.4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>12</td>
<td>23.9</td>
<td>32.2</td>
<td></td>
</tr>
<tr>
<td>Number of offspring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>59</td>
<td>12.5</td>
<td>17.2</td>
<td>.16</td>
</tr>
<tr>
<td>1–3</td>
<td>157</td>
<td>14.8</td>
<td>19.9</td>
<td></td>
</tr>
<tr>
<td>&gt; 4</td>
<td>152</td>
<td>17.9</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

VHI = Voice Handicap Index.

Table 2. Voice Handicap Index Scores of the Teachers Based on the Habits that Could Affect Their Voices ($N = 416$)

<table>
<thead>
<tr>
<th>Habit</th>
<th>n</th>
<th>Mean VHI</th>
<th>SD</th>
<th>Mann-Whitney Test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loud voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>214</td>
<td>18.4</td>
<td>21.3</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>No</td>
<td>202</td>
<td>14.4</td>
<td>21.5</td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>27</td>
<td>20.8</td>
<td>23.9</td>
<td>.19</td>
</tr>
<tr>
<td>Negative</td>
<td>389</td>
<td>16.2</td>
<td>21.3</td>
<td></td>
</tr>
</tbody>
</table>

VHI = Voice Handicap Index.

Table 3. Voice Handicap Index Scores of the Teachers Based on Variables of Teaching Characteristics ($N = 416$)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>Mean VHI</th>
<th>SD</th>
<th>Kruskal-Wallis Test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching experience (yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 10</td>
<td>122</td>
<td>17.6</td>
<td>20.5</td>
<td>.04</td>
</tr>
<tr>
<td>10–20</td>
<td>247</td>
<td>17.2</td>
<td>22.8</td>
<td></td>
</tr>
<tr>
<td>&gt; 20</td>
<td>47</td>
<td>9.8</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Grade taught</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>132</td>
<td>12.8</td>
<td>19.4</td>
<td>.004</td>
</tr>
<tr>
<td>Intermediate</td>
<td>139</td>
<td>15.3</td>
<td>20.9</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>145</td>
<td>20.9</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arabic and religion</td>
<td>129</td>
<td>18.1</td>
<td>21.8</td>
<td>.59</td>
</tr>
<tr>
<td>Math</td>
<td>25</td>
<td>14.2</td>
<td>19.9</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>60</td>
<td>20.6</td>
<td>26.9</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>47</td>
<td>18.1</td>
<td>20.9</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>31</td>
<td>13</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>124</td>
<td>13.4</td>
<td>19.7</td>
<td></td>
</tr>
<tr>
<td>Student numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 20</td>
<td>64</td>
<td>16</td>
<td>21.6</td>
<td>.25</td>
</tr>
<tr>
<td>21–30</td>
<td>141</td>
<td>14.4</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>&gt; 30</td>
<td>211</td>
<td>18</td>
<td>23.2</td>
<td></td>
</tr>
<tr>
<td>Number of sessions/wk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 10</td>
<td>28</td>
<td>19.4</td>
<td>22.9</td>
<td>.12</td>
</tr>
<tr>
<td>10–20</td>
<td>266</td>
<td>15.7</td>
<td>21.1</td>
<td></td>
</tr>
<tr>
<td>&gt; 20</td>
<td>122</td>
<td>17.5</td>
<td>21.9</td>
<td></td>
</tr>
</tbody>
</table>

VHI = Voice Handicap Index.
significant difference between the teachers’ VHI scores regarding the number of teaching sessions per week or the number of students in the classroom.

**Voice-Related Symptoms**

Table 4 shows the results of comparing the VHI scores among the study group regarding the voice-related symptoms. Teachers who reported voice-related symptoms such as change of voice, hyperacidity, choking, and difficulty in breathing and swallowing recorded significantly higher VHI scores than those with negative symptoms.

**Impact of Voice Problems on the Teaching Career**

Thinking of changing the teaching career into administrative work and frequent absenteeism from school because of voice complaints were considered in the judgment on the impact of voice problems on the teaching profession. Teachers who reported that they thought of changing the teaching career and those who reported frequent absenteeism from schools because of their voice problems had statistically significant higher VHI scores than those who did not. These results are demonstrated in Table 5.

**Discussion**

Although most of the studies about professional voice users include teachers as a high-risk occupational group to develop voice disorders, there is a variable documented prevalence of voice problems in teachers. This is because there are still no reliable data on the incidence of dysphonia in the general population. Also, within the profession, the degree of voice demand is highly variable.

This is the first study in the Kingdom of Saudi Arabia to investigate voice problems in teachers. Thirty-three percent of the teachers participating in this study reported having a voice-related problem. This percentage is close to that reported in previous related studies. In addition, there was a high response rate (78%) among the teachers who participated in this study. This indicates that most of the teachers in Riyadh city are interested in evaluating their vocal performance and consider voice quality an important factor that could have an impact on their profession.

This current study included more male teachers than other related studies that focused mainly on females, assuming that females are more likely to develop voice problems than males. However, no significant difference was demonstrated between males and females in the study group regarding gender. This means that gender, in this study, did not correlate significantly with the voice quality of the teachers. At the same time, no significant difference was shown when comparing the VHI scores of the different age groups of the teachers included in this study. Our results match those of Chen and colleagues, who studied risk factors and the effects of voice problems among 254 Taiwanese teachers with an age range of 20 to 60 years and reported no significant difference between different age groups in relation to voice problems.

However, the relationship between age and voice problems in our study was inconsistent with Russell and colleagues’, Roy and colleagues’, and Smith and colleagues’ findings for American and Australian teachers. They found a higher prevalence of voice problems in teachers.

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**Table 4.** Voice Handicap Index Scores of the Teachers Based on Voice-Related Symptoms (N = 416)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>n</th>
<th>Mean VHI</th>
<th>SD</th>
<th>Mann-Whitney Test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>140</td>
<td>20.3</td>
<td>24.7</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Negative</td>
<td>276</td>
<td>15.8</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td>Choking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>78</td>
<td>23.3</td>
<td>22.8</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Negative</td>
<td>338</td>
<td>14.9</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td>Difficult swallowing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>46</td>
<td>31.8</td>
<td>26.6</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Negative</td>
<td>370</td>
<td>14.5</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Difficult breathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>86</td>
<td>26.1</td>
<td>23.9</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Negative</td>
<td>330</td>
<td>13.9</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>Hyperacidity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>115</td>
<td>22.1</td>
<td>24.4</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Negative</td>
<td>301</td>
<td>14.3</td>
<td>19.8</td>
<td></td>
</tr>
</tbody>
</table>

VHI = Voice Handicap Index.

**Table 5.** Voice Handicap Index Scores of the Teachers Based on Impact of Voice Disorders on Their Teaching Career (N = 416)

<table>
<thead>
<tr>
<th>Impact</th>
<th>n</th>
<th>Mean VHI</th>
<th>SD</th>
<th>Mann-Whitney Test (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent absenteeism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>53</td>
<td>36.1</td>
<td>26.2</td>
<td>.004</td>
</tr>
<tr>
<td>No</td>
<td>87</td>
<td>22.5</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Thinking of changing teaching career</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>39.5</td>
<td>25.5</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>21.6</td>
<td>20.8</td>
<td></td>
</tr>
</tbody>
</table>

VHI = Voice Handicap Index.
older than 50 years. Roy and colleagues reported that long durations of vocal use in teaching have a cumulative effect on voice.\textsuperscript{28} Moreover, hormonal changes in menopause and aging may further deteriorate vocal function in females.\textsuperscript{35,36} Although the sample size in our study was relatively large, those effects were not seen in our population. It seems that more studies are needed to reveal the exact relationship between age and voice quality in teachers.

Most of the related studies did not include the marital status of the teachers or the number of their offspring as variables for comparing VHI scores. Our findings regarding these two factors revealed no significant differences between each of these two factors and the voice problems that teachers could have.

Because of differences in vocal physiology, people may need to work differently to avoid vocal problems during their career. In the current study, a loud voice during conversations was the most prominent living habit that showed a significant difference among teachers regarding their VHI scores. This emphasizes the importance of conservative voice use for teachers to keep their voice in optimal condition.

It is generally known that smoking has a negative impact on voice.\textsuperscript{9,37} Interestingly enough, smoking did not show significant differences among teachers in our study group regarding their VHI scores (see Table 2). These results agreed with Roy and colleagues’ findings for schoolteachers and Miller and Verdolini’s reports for singing teachers.\textsuperscript{28,38} In Roy and colleagues’ study, 1243 American teachers were surveyed for detecting the prevalence of voice problems among them where no direct association was reported between smoking and voice problems.\textsuperscript{28} This may be explained by the low smoking index that teachers could have in relation to the general population, especially in our study, where only 27 of 416 teachers were smokers.

Years of teaching experience have always been considered a contributing factor to vocal dysfunction.\textsuperscript{39} According to the findings reported by Marks, more experienced teachers were more prone to develop voice problems than others with less teaching experience.\textsuperscript{40} On the other hand, Mjaavatn found that younger teachers reported greater vocal difficulties due to longer working hours and poorer vocal hygiene techniques than their older and more experienced peers.\textsuperscript{41} The significant difference that has been demonstrated between the VHI scores of the teachers in this study regarding the teaching experience indicates that the more experienced the teacher is, the more he or she will be able to control the voice demand and the less likely to develop voice problems.

Some studies suggested that the students’ grade levels may have an influence on developing voice disorders in teachers. In their study, Unger and Bastian suggested that teachers working with specific grade levels can be particularly susceptible to vocal problems.\textsuperscript{42} According to Sarfati, primary teachers are more likely to develop voice problems than other teachers because of the excessive demands placed on the voice due to the dependence on oral rather than written communication when teaching young children.\textsuperscript{39} However, in our study, primary school teachers had significantly lower VHI scores than those teaching in intermediate and secondary schools. This may be explained by the system of “continuous evaluation” that is used in Saudi primary schools. This system was recently introduced in Saudi primary schools. It adopts the method of practical teaching rather than theoretical teaching. It includes using more small-group discussions and video films and giving fewer lectures. Moreover, no written or oral examinations are applied at the end of each semester. This technique requires less vocal efforts from teachers in teaching and assessing primary school students.

Most of the teachers who had a large number of students in the class and those who had more sessions per week reported higher VHI scores than others. However, this difference in VHI scores did not reach a statistically significant level. This could be explained by the relatively small size of teachers when categorized based on the two above-mentioned factors. Only 28 teachers were having 10 sessions or less per week, whereas the rest of the 416 teachers were having more than 10 sessions per week. Similarly, only 64 teachers among the study group had a class size of up to 20 students, whereas the rest of the surveyed teachers had more than 20 students per class. This could result in relatively high VHI scores in the group of teachers with a smaller class size and fewer sessions per week that could not show a significant difference when compared to other teachers.

Few studies investigated the effect of the course given by teachers on their voice quality. Smith and colleagues found that physical education is one of the courses that have a significant influence on teachers’ voices.\textsuperscript{43} This was attributed to the high vocal demand needed in coaching, such as yelling over a long distance without using an amplification system. Also, the authors found that biology and chemistry courses were associated with a higher risk of having a voice problem. However, they could not find an explanation of those findings. In our study, it appeared that the courses taught did not have a significant impact on the perception of disordered voice in teachers. These findings match those of Chen and colleagues, who found
no significant difference for the frequency of voice problems among teachers regarding school courses. However, these results are inconsistent with Smith and colleagues’ findings for American teachers. This controversy may be due to different teaching styles. For example, some teachers use more modern educational techniques that depend mainly on problem-based and small-group learning, which entail more brainstorming and less vocal efforts. Other teachers are still using lectures that are more vocally demanding.

The results of the current study revealed that teachers who reported current voice-related complaints were observed to have significantly higher VHI scores compared to teachers without voice-related complaints. These findings coincide with the results of Vanhoudt and colleagues, who found that the psychosocial impact of the voices of student-teachers with voice complaints was significantly greater than that of student-teachers without voice complaints.

The vocal condition of the teachers could have a significant impact on the teaching profession. The results of this study showed that teachers who reported frequent absenteeism from schools and those thinking of changing careers had significantly higher VHI scores than others. Similar findings were reported by Sapir and colleagues, Russell and colleagues, and Smith and colleagues, who found that more than one-third of teachers with voice problems missed work as a result. This reflects the potential impact of voice problems on teachers and on the education profession.

Conclusion

The results of this study showed that voice disorders appear to be a significant problem among some teachers who were included in this study. This was revealed by the high VHI scoring reported by those teachers in different teaching grades as well as those who reported having voice problems (33%). Some factors could contribute significantly to the development of voice problems in teachers. Some of these factors are loud voice and some teaching characteristics that appear to have a significant impact on the voice quality of teachers.

Recommendations

Based on the results of this study, a reduction in or elimination of risk factors of voice disorders in teachers would be reflected on improving their vocal behaviour, which consequently will have a positive impact on the teaching profession as a whole. Preventive strategies and planned vocal hygiene programs for awareness and care of voice problems should be included in the education of future teachers and in the teaching process. These programs may include two types of prevention: primary prevention, which refers to eliminating any factor that might cause a voice disorder, and secondary prevention, which involves early detection and treatment of voice disorders.

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References


## مؤشر الإعاقة الصوتية

اختار أحد الأرقام المقائمة لكل سؤال والذي يصف شدة المشكلة لديك:

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<th>3=متوسط</th>
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</table>

### الجزء الأول:

1. صوت يسمع على الأذنين سماح.
2. يجد الناس صعوبة في فهمي (سماع صوتي) عندما أتحدث في غرفة كبيرة الضوضاء.
3. تجد عائلتي صعوبة في سماعي صوتي عندما أكلهم في المنزل.
4. صوتي يعطي المعنى الفعلي بشكل أقل مما يجب.
5. أمل إلى تجنب الاجتماع بالناس بسبب صوتي.
6. صوتي يجعلني تحدث مع أصدقاءي المعترضين بشكل أقل مما يجب.
7. الناس يطلبون مني أن أذكر ما أقول عندما أتحدث إليهم وجهة نظر.
8. مشاكل الصوت لدى أثرت سلباً على حياتي الشخصية والاجتماعية.
9. أحس بأنه يتم إهدالي في المناقشات (المناقشات) بسبب صوتي.
10. مشاكل الصوت لدى تسبب في تقليل دخل المادي.

المجموع =

### الجزء الثاني:

1. أفقد الكثير من هواء أثناء التنفس عندما أتحدث.
2. صفر يغير خلال اليوم.
3. يسأل الناس دائماً: "أنا أخف صوتي؟".
4. صوتي ناضج وله صبر (خشن).
5. أحس أنه على أن أضغط على عنجرتي (أحدها) لإنجاز صوتي.
6. صوتي صفيح لا يمكن الانتهاء به.
7. أحاول أن أغير صوتي ليدني مختلفاً (أفضل).
8. أقوم بكثير من الجهود للتحدث.
9. صوتي أسوأ في المساء.
10. يقطع صوتي أثناء الحديث.

المجموع =

### الجزء الثالث:

1. أكون متأثراً عندما أتحدث مع الأخرين بسبب صوتي.
2. صفر يزعج الناس بسبب صوتي.
3. أجد بعض الناس لا تفهم طبيعة مشكلة صوتي.
4. مشكلة صوتي تجزمي.
5. أقابل الخروج من البيت بسبب مشكلة صوتي.
6. صوتي يجعلني أحس أنه يغمرني.
7. أشعر بالإزعاج عندما أطلب مني الأخرون أن أذكر ما قلت.
8. أشعر بالإزعاج عندما أطلب مني الأخرون أن أذكر ما قلت.
9. صوتي يجعلني أحس بأنني غير متعلم.
10. أشعر بالأمتعه من مشكلة صوتي.

المجموع الكل =
Appendix 2

استبيان أمراض الصوت

المعلومات الشخصية:

- الاسم (اختياري):
- أرقام إتصال (اختياري):
- البريد الإلكتروني (اختياري):
- العمر:
- الجنس:
- الجنسية:
- الحالة الاجتماعية:
- عدد الأولاد:
- مقر السكن:
- آخر شهادة علمية حصلت/حصنتي عليها:

المعلومات الوظيفية:

- اسم المدرسة:
- الحي:
- المدينة:
- المرحلة/السنة التي تدرس/تدرس فيها:
- المادة التي تدرسها/تدرسها:
- معدل عدد الطلاب/الطالبات في الفصل:
- النصب الأسبوعي:
- حصة:
- معدل الحصص باليوم:
- حصة:
- عدد سنوات التدريس:
- هل تقوم بأنشطة كلامية أخرى كالإمامرة والخطابة؟: نعم/لا
- إذا كانجواب بنعم: وما هي؟:
الصوت:
- هل تعاني من أي مشاكل في الصوت؟ نعم لا
- إذا كان الجواب نعم:
  - صف مشاكل الصوت لديك:

منتي بدأت المشكلة لديك؟
- ما هي أسباب مشاكل صوتك؟
- كيف بدأت المشكلة لديك؟

هل اكتشفت مشكلة صوتك بنفسك أم نبهك أحد لها؟
- هل تحس أن المشكلة في ازدياد أم في تحسن؟ في ازدياد في تحسن
- إنهيار يوم العمل، هل تزداد مشاكل الصوت أم تقل؟ تزداد تقل
- هل تسبب مشكلة الصوت لديك في تغيير عن العمل؟ نعم لا
- إذا كان الجواب نعم:
  - لماذا كان سبب الغياب؟
  - كيف يوما تغيّرت عن المدرسة في السنة الماضية؟
  - كيف يوما تغيّرت عن المدرسة في السنة الحالية؟

هل جعلت مشاكل الصوت تفكك في ترك مهنة التدريس؟ نعم لا
- إذا كان الجواب نعم، لماذا?

هل تعاني من أي من الأعراض الآتية أثناء أو بعد الحديث؟
- ضيق بالحلق: نعم لا
- ألم بالحلق: نعم لا
- نزعة متكررة: نعم لا
- الإحساس بأن هناك شيء ما عالق بالحلق يصعب بلعه: نعم لا
- صعوبة في إكمال يوم العمل بسبب الصوت:
- نعم لا
- هل من عادتك رفع الصوت عند الكلام والسخر؟
- نعم لا
- هل من عادتك رفع الصوت عند التحدث بالتفوق أو الجوال؟
- هل هناك تاريخ عائلية مشابهة في الصوت؟ نعم لا
- إذا كان الجواب نعم:

- ما هي هذه المشكلة؟
- ما هي صلة القرابة؟

التدخين:
- هل تدخين/تدخنين؟ نعم لا
- إذا كان الجواب نعم:
أعراض وأعراض أخرى:

هل تعاني/تعاني من أي من الآتي:
- إرهاب متكرر في الحلق أو الجيوب الأنفية مع ارتفاع في درجة الحرارة: نعم لا
- حساسية في الأنف أو الصدر (جديد): نعم لا
- كحة مزمنة: نعم لا
- حموضة (حرقان) في منطقة الصدر: نعم لا
- شرقة أثناء اليوم: نعم لا
- سوانيات في اللسان: نعم لا
- سوانيات في التنفس: نعم لا
- حرقان في الحلق: نعم لا

هل أجريت لك أي عملية جراحية؟ ما هي؟: نعم لا

هل لديك مرض السكر؟: نعم لا

هل كان الجواب نعم، كيف تعالجه؟: لا

هل تستعمل أي أدوية بانتظام؟ ما هي؟: نعم لا

هل تعرضت لإصابة للرقبة أو الحنجرة؟: نعم لا

العلاج:

هل تتابع/تتابع مشكلة صوتك في أي عيادة طبية؟: نعم لا

إذا كان الجواب لا، فلماذا لا ت تعالج/تعالج مشكلة صوتك حتى الآن؟: لا

إذا كان الجواب نعم:
- في أي مستشفى؟: لا
- أي تخصص؟: أنف أو حنجرة، طب التنفس، أخصائي تخطيط: لا
- لماذا كان تشخيصه حالي؟: لا