COLLEGE CHOIR: SELF-REPORTED SYMPTOMS VOCAL AND HANDICAP VOCAL IN SINGING

Coro universitário: autoperccepción de sintomas vocais e desvantagem vocal no canto

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ABSTRACT

Purpose: To compare the voice handicap index with the propensity to dysphonia as perceived by the choristers of Universidade Federal de Sergipe. Methods: Study of quantitative, cross-sectional, observational and descriptive approach, in which 32 singers participated. The participants answered the questionnaire Classical Singing Handicap Index, which analyzes the impact of alteration in the vocal sung voice in three subscales: disability, handicap and defect. Have also responded to the questionnaire Voice Symptom Scale that analyzes the propensity to dysphonia in three subscales: restraint, emotional and physical. Results: Classical Singing Handicap Index it was observed a higher rate in subscale Defect (28.75%) followed by Disability subscale (15.79%) and Handicap (12.27%). Already in Voice Symptom Scale, was seen a higher score on the Physical subscale (25.23%), followed by limitation subscale (19.74%) and Emotional (6.84%). In comparison between the two questionnaires used, there was a statistically significant correlation between all scores, except between the Physical and Disability. Conclusion: The choristers showed that propensity to dysphonia in this research also had vocal symptoms such as throat pain, throat clearing, hoarseness and cough.

KEYWORDS: Voice; Dysphonia; Singing

INTRODUCTION

The choir is the most remote group work related to vocal sounds, binds deeply religious activities and cultural traditions of various ancient civilizations1-3. Among the various forms of singing, the choir requires its participants a few quirks as follows baton of conductor, the position according to the classification of voices, harmony among all choristers, among other things. For the choir reach harmony in the performance of music, it is necessary that the choristers have adequate vocal preparation that includes the vocal demands of this type of chant1.

Corals can exist in various places such as churches, schools, universities and companies. They are also found singers of various ages and genders, which make the very diverse coral. The classification of voices is performed according to the vocal range and are divided into suits, being soprano and contralto to female voices and tenor and bass to male voices the soprano suit equivalent to more acute female voice, with vocal tessitura average of dó2 the dó5; already contralto, is the most serious female vocal classification in which the vocal range lies averaging fá, the fá4; tenors choristers have the sharpest male voice and the average of his vocal range is dó2 the dó5; low have the lower voices in the men’s standings with vocal tessitura average of fá, the fá4.

You can conceptualize and differentiate the singing voice of the spoken voice in many ways, as each has its own characteristics and peculiarities. The singing voice needs to constantly worked exercises and adaptations, among other characteristics control of voice quality, the change in the articulation of speech sounds, use of pauses and use of specific features such as vibrato1-4. The expressiveness in the corner is a valued factor, as it
requires the singer to express different emotions to
the public, aesthetically involving the listener8,9.

In college corals you can find people of different
ages, from young to old. In a survey that aimed to
analyze the perception of voice and its alterations
and vocal health care of 10 elderly participants,
these choristers could observe problems related
to vocal health and altered parameters, even if not
reported complaints and being satisfied with the
voice7. In another study of elderly singers, it was
observed that of choral activities were effective for
the improvement of vocal symptoms, as there was
a gradual decrease in symptoms initially detected
over activity in choral corner6.

Studies indicate that several factors influence the
preservation of health vocal8,9,10. A study of amateur
choristers revealed that they had hoarseness,
were using tablets as a palliative for dysphonia and
complained of difficulty to achieve high or low notes;
we can hypothesize that these factors relate to the
lack of guidance on the care of voice and practice
of vocal technique, which shows that the lack of
this can impair activity in singing8,9,10. A study brings
some cases which show that the vocal warm-up
techniques are used and encouraged the tests,
however, no description given time duration as
well as without a form agreed application for these
techniques, so there is no security to see if the were
active heating techniques. Regarding the cool-down
techniques, most of the teachers do not encourage
the use by not having the knowledge necessary to
perform lo11.

The perception of the singer on her voice is an
important factor to be studied in order to evaluate
the vocal necessary adjustments to your vocal
health and also to provide subsidies to the speech
therapist in the most direct action on the vocal
discomfort. Thus, Phonoaudiology is dedicated
to formulate, implement and analyze protocols
and voice assessment questionnaires directed to
aspects of self-awareness, which makes them an
effective tool to aid in the perception of the singer
on her voice, but also enable analysis of the impact
vocal production in your professional life. With these
self-awareness tools, it is possible to know relevant
aspects of vocal perception of choristers and still
can have a broader view of the factors surrounding
the singers.

The literature presents studies using oriented
protocols for the self-perception of the singer. Among
them, there is the Voice Handicap Index
Protocol Corner Classic (CPIC) which was applied
to classical singers to identify the fact that there is a
vocal complaints disadvantage because the quality
of life in relation to the use of singing voice. In this
study it was found that singers with complaints and/
or vocal symptoms have a higher handicap ratio
in the corner, with higher expression in default
subscales and disability, without any relation to the
classification vocal12.

In a similar survey, there was a difference in
singing styles and the presence of voice complaints
to influence the perception of voice handicap
singers; protocols vocal Handicap Index in Corner
Modern were used (MCID) and the vocal Handicap
Index in Classic Chant Classic (CPIC), to compare
popular singers and classic, with or without vocal
complaints. As a result, the classical and popular
singers mentioned highest rate in the subscale
defect, followed by disability and handicap, and the
classical singers with vocal complaints had greater
voice handicap that popular singers also with
complaints. This study concluded that the classical
singer has greater insight into his voice and that
voice alterations in this group of singers can cause
greater voice handicap than in the group of popular
singers13.

The University in which this study was conducted
is an extension project entitled Coral of the University
that promotes closer relations between the
University and the community, which has a history
of several changes in the course of its existence,
for example, the insertion of scholarship students
and volunteers who develop a repertoire with instru-
ments to encourage the musical development of the
participants, both in groups and individually. Thus,
this research aims to compare the voice handicap
index with the propensity to dysphonia as perceived
by the choir of the University.

**METHODS**

The research in question is in line with the
resolution 466/12 of the National Commission on
Ethics in Research/CONEP, and it was approved by
the Ethics Committee for Research Involving Human
Beings of the Universidade Federal de Sergipe (CEP/
UFS) with the CAAE number 2001413.6.0000.5546,
without risks to the participants who freely agreed
to participate in the study and signed the informed
consent.

This study of cross-sectional and observational,
descriptive and quantitative analysis approach
with the participation of 32 singers in a university
choir. We adopted as inclusion criteria subject
regular participants in rehearsals and performances
of CORUFS and Informed Consent (TCLE) duly
signed. However, we excluded individuals who had
some self vocal complaints referred from diseases
not related to the use of singing voice and partici-
pation time in the lower coral for 5 months.
All participants who consented to participate in the study completed the IDCC protocol – Handicap Index in the Choir, made up of thirty (30) items divided into three subscales relating to disability, disadvantage and defect, respectively. This was adapted from the original protocol developed by the Speech Specialist Franco Fussi\textsuperscript{14} and it is still in the validation process\textsuperscript{15}.

The IDCC is culturally adapted to Portuguese from the original italian\textsuperscript{14} and analyzes the impact of vocal changing in singing voice. Originally it is answered by a four-point Likert scale, however, in adaptation to Portuguese it was added a point, where 0 is never 1-almost never, 2-sometimes 3-and often 4-always; the higher the score, the greater the severity of voice handicap. This protocol was created from the need to have a voice assessment sensitive to the perception of the vocal characteristics of choral singers\textsuperscript{13,14}.

After the IDCC, the participants answered a protocol ESV – Symptoms Vocals Scale, which is considered a strong self-assessment tool for voice and vocal symptoms to show clinical responses to treatment in dysphonia. The ESV is composed of 30 questions, in which fifteen questions are about domain limitation (functionality), eight on emotional domain (psychological effect) and seven relate to the physical domain (organic symptoms) and it is answered by a Likert scale with five items, which are Never, Rarely, sometimes, often and Always; The more is obtained When the response item, the greater the propensity for the presence of dysphonia\textsuperscript{16,17}.

Finally, participants were asked to fill in a form with demographic data to make it possible to identify the singers profile and investigate a possible relationship among the data.

After collecting data, the results were tabulated in a database created in the Excel spreadsheet and subsequently transferred to SPSS version 19 (Statistical Package for Social Sciences) for statistical analysis. For quantitative variables it was tested adherence to the normal curve (Komolgorov-Smirnov test) and it has been proven free distribution; so, we used the non-parametric Spearman test to correlate the data, the variable variable. We assumed the significance level of 5\% (p ≤ 0.05) to consider statistical significance of the data.

\section*{RESULTS}

The data for the participants profiles, it appears that the collected sample (N=32), 34.38\% (N=11) compose the suit of sopranos, 28.12\% (N=9) the suit of altos, 18.75\% (N=6) of the suit tenors and 18.75\% (N=6) of the suit low, which can be seen in Figure 1; it also notes a higher proportion of females 62.50\% (N=20) compared to male 37.50\% (N=12).

As to age, 62.50\% (N=20) aged between 20 and 30 years old, since 18.75\% (N=6) between 31 and 40 years old, 9.38\% (N=3) between 41 and 59 years old and 9.38\% (N=3) is greater than 60. By asking participants choir singing time, the following responses were observed: 9.38\% (N=3) of the choristers sing for less than one year; 21.88\% (N=7) sing between 1 and 5 years, 12.50\% (N=4) reported that their music between 5 and 10 years, and 56.25\% (N=18) reported that the singers sing active for over 10 years. In addition to participating in the choir, there are singers who consider that voice professionals in other settings, as follows: 37.50\% (N=12) are teachers, 31.25\% (N=10) are students, 12.50\% (N=4) are musicians, while the remaining 18.75\% (N=6) did not consider that use their voice professionally in other environments.

The percentages referring to the index scores in accordance with the answer to the questionnaire from each suit IDCC are arranged in Figure 2. Thus, it can be seen that the highest score with respect to IDCC was defective in subscale, followed by subscale Disability and Handicap.

Looking at these issues from both instruments, it can be seen that there is a closeness in targeting these groups between disability and limitation, Disadvantage and Emotional, and Physical and Trouble; this fact is confirmed by the results displayed in figures 2 and 3 as well as in table 1 shows that the total number of answers by suit the subscales of the two questionnaires used because the highest rates are similar.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure1.png}
\caption{Percentage of choristers divided by suit}
\end{figure}
Figure 2 – Percentage of answers by suit and subscales the vocal Handicap Index

Figure 3 – Percentage of responses to the questionnaire subscales suit and Vocal Symptoms Scale
Table 1 – Percentage and total responses to the questionnaires suit and subscales vocal Handicap Index in Canto Classic and Vocal Symptoms Scale

<table>
<thead>
<tr>
<th></th>
<th>IDCC</th>
<th>ESV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incapacity</td>
<td>Disadvantage</td>
</tr>
<tr>
<td>Soprano</td>
<td>12,73%</td>
<td>15%</td>
</tr>
<tr>
<td>Contralto</td>
<td>21,67%</td>
<td>15%</td>
</tr>
<tr>
<td>Tenor</td>
<td>20,42%</td>
<td>9,59%</td>
</tr>
<tr>
<td>Bass</td>
<td>7,92%</td>
<td>5,84%</td>
</tr>
<tr>
<td>Total</td>
<td>15,79%</td>
<td>12,27%</td>
</tr>
</tbody>
</table>

Considering this proximity between the issues of disability groups and Limitation, Disadvantage and Emotional, and Physical Defect and these were crossed in order to investigate possible relationships. Thus, the questionnaires divided into three subscales were correlated and considered p ≤ 0.05 for statistical significance between the data that has been highlighted in bold in the tables below. The questions were arranged in a summarized way and numbered according to the corresponding number on the questionnaire.

The correlation between the subscale Disability, the IDCC questionnaire with the subscale questionnaire limitation ESV note that several questions showed statistically significant correlation with each other and we highlight two issues of IDCC questionnaire (“7-I have to do periods of vocal rest longer between performances or productions” and “10- My vocal problem forces me to limit the social use of voice”) who obtained a correlation of 60% of the questions of the subscale ESV limitation. Also notes that the issues “1- Do you have trouble calling people’s attention?” and “9-Do you have trouble talking on the phone?” The ESV questionnaire, did not correlate with any of the issues of disability subscale of IDCC, as shown in Table 2.

The correlation between the subscale Handicap, the IDCC questionnaire, and the emotional subscale, referring to the ESV questionnaire is noteworthy that the issues “19-I avoid schedule future work commitments” and “20-I avoid talking to people” showed a statistically significant correlation with all other issues of emotional subscale, as shown in Table 3.

Table 4 shows the cross between the subscale defect, which is part of IDCC and the Physical subscale ESV protocol. In analysis, it can be observed that the three questions “21-I have difficulty with breathing control because of my voice problem”, “25-My vocal range reduced or changed” and “30-Worsening my vocal performance at times the day” did not obtain any significant correlation with the other issues related to Physical subscale.

In crossing the total of all subscales of the two protocols, there was a statistically significant correlation between all the scores, except between the Physical and Disability. It should be noted that there was no statistically significant correlation only between the subscale score Physical concerning the questionnaire ESV, with the score of subscale Disability concerning the questionnaire IDCC. This data can be best seen in Table 5.

Table 6 presented the results of the comparison of the total score of IDCC and ESV protocols, which showed a statistically significant correlation. This shows that the questionnaires observed the same aspects and were sensitive to aspects concerning the difficulties mentioned by the choristers.
### Table 2 – Crossing the subscale Limitation x Disability

<table>
<thead>
<tr>
<th>ESV</th>
<th>IDCC</th>
<th>1 Vocal yield</th>
<th>2 + time to heat</th>
<th>3 Tired voice</th>
<th>4 Vocal technique</th>
<th>5 Repertory assay</th>
<th>6 Assay time</th>
<th>7 Longest vocal resting</th>
<th>8 Pianissimo Remedy for voice</th>
<th>9 Social use of voice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0,739</td>
<td>0,144</td>
<td>0,526</td>
<td>0,223</td>
<td>0,186</td>
<td>0,483</td>
<td>0,556</td>
<td>0,531</td>
<td>0,630</td>
<td>0,360</td>
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<tr>
<td>2</td>
<td>0,423</td>
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<td></td>
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<tr>
<td>4</td>
<td>0,139</td>
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<td></td>
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<td>9</td>
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<td></td>
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<tr>
<td>14</td>
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<tr>
<td>16</td>
<td>0,056</td>
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<tr>
<td>17</td>
<td>0,610</td>
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<tr>
<td>20</td>
<td>0,045</td>
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<td></td>
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<tr>
<td>23</td>
<td>0,115</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>24</td>
<td>0,090</td>
<td></td>
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<td></td>
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<tr>
<td>25</td>
<td>0,092</td>
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<tr>
<td>27</td>
<td>0,091</td>
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<td></td>
</tr>
</tbody>
</table>

* Statistically significant results for the Spearman correlation test (p < 0.05)
### Table 3 – Crossing the subscale Disadvantage x Emotional

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Anxiety</td>
<td>0.258</td>
<td>0.081</td>
<td>0.344</td>
<td>0.412</td>
<td>0.138</td>
<td>0.500</td>
<td>0.318</td>
<td>0.135</td>
</tr>
<tr>
<td>12</td>
<td>Others will not understand</td>
<td>0.748</td>
<td>0.692</td>
<td>0.316</td>
<td>0.217</td>
<td><strong>0.005</strong>*</td>
<td><strong>0.008</strong>*</td>
<td>0.451</td>
<td>0.884</td>
</tr>
<tr>
<td>13</td>
<td>Other people criticize the voice</td>
<td><strong>0.034</strong>*</td>
<td><strong>0.014</strong>*</td>
<td><strong>0.024</strong>*</td>
<td>0.343</td>
<td><strong>0.030</strong>*</td>
<td>0.094</td>
<td><strong>0.036</strong>*</td>
<td><strong>0.039</strong>*</td>
</tr>
<tr>
<td>14</td>
<td>Nervous because of the voice</td>
<td>0.219</td>
<td><strong>0.042</strong>*</td>
<td><strong>0.034</strong>*</td>
<td>0.204</td>
<td><strong>0.014</strong>*</td>
<td>0.146</td>
<td><strong>0.043</strong>*</td>
<td>0.052</td>
</tr>
<tr>
<td>15</td>
<td>Worried when repeats a vocalize</td>
<td>0.051</td>
<td><strong>0.011</strong>*</td>
<td><strong>0.002</strong>*</td>
<td>0.162</td>
<td><strong>0.008</strong>*</td>
<td><strong>0.003</strong>*</td>
<td><strong>0.001</strong>*</td>
<td><strong>0.000</strong>*</td>
</tr>
<tr>
<td>16</td>
<td>Voice problem hinders career</td>
<td>0.256</td>
<td>0.870</td>
<td><strong>0.008</strong>*</td>
<td>0.064</td>
<td>0.080</td>
<td>0.103</td>
<td>0.135</td>
<td>0.154</td>
</tr>
<tr>
<td>17</td>
<td>Other have noted problems in the voice</td>
<td>0.227</td>
<td>0.862</td>
<td><strong>0.002</strong>*</td>
<td>0.053</td>
<td><strong>0.011</strong>*</td>
<td><strong>0.018</strong>*</td>
<td>0.111</td>
<td>0.129</td>
</tr>
<tr>
<td>18</td>
<td>Cancel appointments because of the voice</td>
<td>0.098</td>
<td>0.062</td>
<td><strong>0.011</strong>*</td>
<td>0.072</td>
<td>0.110</td>
<td>0.189</td>
<td><strong>0.036</strong>*</td>
<td><strong>0.043</strong>*</td>
</tr>
<tr>
<td>19</td>
<td>Do not schedule professional commitments</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.002</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.001</strong>*</td>
</tr>
<tr>
<td>20</td>
<td>Avoid to talk</td>
<td><strong>0.001</strong>*</td>
<td><strong>0.004</strong>*</td>
<td><strong>0.001</strong>*</td>
<td><strong>0.004</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
<td><strong>0.000</strong>*</td>
</tr>
</tbody>
</table>

* Statistically significant results for the Spearman correlation test (p < 0.05)
Table 4 – Crossing the subscale Defect x Physical

<table>
<thead>
<tr>
<th>IDCC</th>
<th>ESV</th>
<th>Throat in pain?</th>
<th>Cough or throat clearing</th>
<th>Something stopped throat</th>
<th>Lump on neck</th>
<th>Secretion in the throat</th>
<th>Stuffy nose</th>
<th>Throat infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td></td>
<td>0.468</td>
<td>0.266</td>
<td>0.056</td>
<td>0.858</td>
<td>0.768</td>
<td>0.099</td>
<td>0.065</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.113</td>
<td>0.398</td>
<td><strong>0.004</strong>*</td>
<td>0.339</td>
<td><strong>0.044</strong>*</td>
<td>0.064</td>
<td>0.062</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.529</td>
<td>0.209</td>
<td>0.262</td>
<td>0.574</td>
<td><strong>0.037</strong>*</td>
<td><strong>0.034</strong>*</td>
<td><strong>0.918</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.019*</td>
<td>0.630</td>
<td>0.075</td>
<td>0.375</td>
<td>0.666</td>
<td>0.131</td>
<td>0.195</td>
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</tr>
<tr>
<td>6</td>
<td>0.426</td>
<td>0.173</td>
<td>0.729</td>
<td>0.770</td>
<td>0.830</td>
<td>0.410</td>
<td>0.624</td>
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<tr>
<td>7</td>
<td>0.277</td>
<td>0.521</td>
<td><strong>0.019</strong>*</td>
<td><strong>0.043</strong>*</td>
<td><strong>0.028</strong></td>
<td><strong>0.017</strong>*</td>
<td><strong>0.039</strong>*</td>
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</tr>
<tr>
<td>8</td>
<td>0.255</td>
<td>0.809</td>
<td>0.089</td>
<td><strong>0.011</strong>*</td>
<td>0.102</td>
<td><strong>0.000</strong>*</td>
<td>0.101</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.181</td>
<td>0.889</td>
<td><strong>0.020</strong>*</td>
<td>0.207</td>
<td>0.363</td>
<td><strong>0.012</strong>*</td>
<td><strong>0.048</strong>*</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.733</td>
<td>0.711</td>
<td><strong>0.009</strong>*</td>
<td>0.256</td>
<td>0.171</td>
<td>0.510</td>
<td>0.175</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0.881</td>
<td>0.876</td>
<td>0.481</td>
<td>0.653</td>
<td>0.629</td>
<td>0.966</td>
<td>0.740</td>
<td></td>
</tr>
</tbody>
</table>

* Statistically significant results for the Spearman correlation test (p <0.05)

Table 5 – Crossing all subscales

<table>
<thead>
<tr>
<th>INCAPACITY</th>
<th>DISABILITY</th>
<th>DEFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIMITATION</td>
<td><strong>0.001</strong>*</td>
<td><strong>0.005</strong>*</td>
</tr>
<tr>
<td>EMOTIONAL</td>
<td><strong>0.001</strong>*</td>
<td><strong>0.003</strong>*</td>
</tr>
<tr>
<td>PHYSICAL</td>
<td>0.121</td>
<td><strong>0.033</strong>*</td>
</tr>
</tbody>
</table>

* Statistically significant results for the Spearman correlation test (p <0.05)

Table 6 – Crossing of IDCC total result x ISV total result

<table>
<thead>
<tr>
<th>IDCC Total</th>
<th>ESV total</th>
<th><strong>0.000</strong>*</th>
</tr>
</thead>
</table>

* Statistically significant results for the Spearman correlation test (p <0.05)

**DISCUSSION**

We chose to use this research, the questionnaire ESV, which was validated recently and the questionnaire IDCC, which was unable to be validated in Brazil since its original Italian version has not been validated, but it is the only protocol aimed to classical singing Speech available in Brazilian Portuguese language. These were selected for this research by the fact that evaluate aspects that are related primarily to vocal health. There is research using the IDCC, but there are few published studies.12-14.
In this study the largest number of participants are female, which is the most common sex in many of the choirs, as can also be seen in previous studies. It should be considered that several singers may have other vocal activity beyond the choir, which brings the importance of the singer is conscious and reflect on this activity, regardless of whether it is harmful or not to vocal health. This perception, along with the speech therapy and listen to the perception of the subject on his own voice is something relevant to be considered, since the speech guidance can promote the reduction of possible speech trauma and provide vocal longevity. The experience in choral singing time can also influence self-perception on the voice, since this knowledge helps the therapist to understand the complaints brought, which will subsidize the therapy and provide better advice to the patient.

As for CORUFS is perceived the need for a speech therapist and a teacher of vocal technique to perform a vocal improvement work with the choir, which could contribute to reducing the occurrence of vocal problems, focusing on heating techniques and cooling downs, as well as techniques for improving the coordination, breathing and other points in which is seen a greater difficulty by the choristers. The benefit provided by speech therapy has been proven in other studies in which the singer himself reported improvement in his voice. Speech pathologists, singing teachers but also the choristers themselves perceive positive changes in vocal aspects, as in vocal range, breath and voice projection, after being held these interventions.

It can be seen that the highest score, with respect to CPIC, was in Defect subscale, followed by the Disability and Handicap; these data are equivalent to the findings of other similar studies, in which the defect and disability subscales had higher scores than the subscale Handicap for all singers. Several factors such as lack of vocal technique, inexperience in the corner, high vocal demand and the end use of the voice were reported by the authors as the justification of the largest subscale index defect.

By observing the data collected through the ESV protocol, we note that the highest score was presented in Physical subscale, which covers issues related to the habit of clearing his throat, feeling secretion, pain and sore throat. In another study it was found that singers had a higher rate of vocal symptoms such as throat clearing/secretion, hoarseness and cough with secretions, dry throat and mouth, associated with influenza, heavy use of voice, allergies, respiratory infection, which, consequently, interfered in the voices of these subjects. Similarly it was found in another study in which participants also reported the presence of vocal symptoms such as dry throat, effort and vocal fatigue, sore throat, associated with respiratory allergy as one of the health problems that interfere with more voice.

The propensity to dysphonia by these choristers can not be related only to the activity in the choir, but also be influenced by the heavy use of voice in other spaces or health problems like allergy symptoms, as also observed in a study that showed the relationship between dysphonia and complains of allergic and/or digestive. A propensity to dysphonia can be caused by lack of vocal preparation and not follow a teacher of vocal techniques and a speech pathologist, which could contribute to reducing the occurrence of vocal problems, taking into account the importance of these activities in benefit of choristers.

According to the significance found in the subscales Handicap (IDCC) and Emotional (ESV), the presence or tendency to dysphonia may interfere negatively in the life of a professional voice to affect the property of communication, even though it was just identified in these questionnaires. Voice professionals who report vocal complaints have greater emotional commitment and vocal when compared to others who do not have vocal complaints, which may suggest the existence of a possible intervention of the emotional aspect so there is the change triggering vocal disorders.

Considering the significance of physical subscales (ESV) and Trouble (IDCC), one must have an attention with regard to health, vocal habits and behaviors presented by the singers, since many factors such as lack of guidance on vocal hygiene, pain or discomfort after singing, allergies and breathing problems, hoarseness, use of alcohol in rehearsals and performances, throat clearing, among others, may be crucial in the prevention of dysphonia and avoid changes that may preclude the exercise of activity.

According to the results found in the correlation between the subscales Disability (IDCC) and limitation (ESV), complaints related to voice as a limitation on the vocal range, shortness of breath at the end of musical phrases, sensation of something in the throat, deafness, fault voice, throat clearing constant, among others, may be related to the bad vocal habits that singers have, like, talk too much, eating ice cream usually in excess, speak up and shout often, among others. These factors may be associated with lack of vocal technique as well as the lack of information about how these habits are harmful to voice production and may lead to the development of laryngeal and disphony a changes.
The vocal warm-up was seen as a benefit to the choristers and these practices are common in CORUFS in all tests as well as before the presentations. This effect was also observed in a recent survey, through which all the singers realized significant changes in vibrato, quality and vocal projection and thus highlight the importance of heat voice. But the slowdown is not a practice among the choristers CORUFS.

Singing is a practice which requires appropriate muscular activity that requires careful preparation and this can be accomplished in several ways. It is believed that, to the corner, there is a rule that the act of singing or not to impair the voice, however it can be used in a professional manner or not, but it is extremely important that care is taken with relation to vocal habits in order to maintain the health of the vocal tract.

CONCLUSION

When the comparison of the total score of IDCC and ESV protocols were performed, there was a statistically significant correlation between them, which shows that the questionnaires assessing vocal aspects that are possibly linked.

Note that the choristers have propensity to dysphonia and this can be best viewed in the individual responses but also when comparing the questionnaires used, which showed significant correlation and a considerable score on all items. It can also be verified the constant presence of vocal symptoms such as sore throat, throat clearing, hoarseness and cough, which may be related to inadequate vocal habits or even by heating and cooling downs ineffective according to the uniqueness of the choir.

This research was conducted to compare the IDCC and ESV questionnaires, taking into account the sensitivity of both the evaluation of the choir as well as the vocal self-assessment to check the tendency to dysphonia. It is believed that this study in CORUFS, formed by a population that has not been through any of scientific research process, will be of value both for the information of participants choristers, and to encourage other corals to investigate their practices, because the questionnaires perception help a greater reflection of themselves choristers of the difficulties that may present with regard to their voice and singing.

The results may help in achieving an interventional study, focusing on mentoring and vocal preparation with choristers, specifying the points on which there was a higher rate of vocal disadvantages and/ or habits that interfere in vocal production.

RESUMO

Objetivo: comparar o índice de desvantagem vocal com a propensão à disfonia segundo a percepção dos cantores da Universidade Federal de Sergipe. Métodos: estudo de abordagem quantitativa, transversal, observacional e descritiva, no qual participaram 32 coralistas. Os participantes responderam ao questionário Índice de Desvantagem Vocal no Canto Clássico, que analisa o impacto da alteração vocal na voz cantada em três subescalas: incapacidade, desvantagem e defeito. Também responderam ao questionário Escala de Sintomas Vocais que analisa a propensão à disfonia em três subescalas: limitação, emocional e físico. Resultados: no Índice de Desvantagem Vocal no Canto Clássico observou-se um maior índice na subescala Defeito (28,75%), seguido da subescala Incapacidade (15,79%) e Desvantagem (12,27%). Já no Escala de Sintomas Vocais, foi visto um maior escore Físico (25,23%), seguido da subescala Limitação (19,74%) e Emocional (6,84%). Em comparação entre os dois questionários utilizados, foi verificada correlação estatisticamente significante entre todos os escores, exceto entre o Físico e Incapacidade. Foram comparados os escores totais dos questionários e houve correlação estatisticamente significante entre eles, o que mostra que os questionários avaliam aspectos vocais que estão, possivelmente, interligados. Conclusão: os coralistas que apresentaram propensão à disfonia nesta pesquisa também apresentaram sintomas vocais como dor na garganta, pigarro, rouquidão e tosse.

DESCRITORES: Voz; Disfonia; Canto
REFERENCES
