

Quality of life related to the voice and vocal symptoms of solo amateur singers of Igreja Batista Palavra Viva of Florianópolis

Qualidade de vida em voz e sintomas vocais de cantores solistas amadores da Igreja Batista Palavra Viva de Florianópolis

Calidad de vida en voz y síntomas vocales de cantantes solistas aficionados de la Igreja Batista Palavra Viva de Florianópolis

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Abstract

Objective: to analyze the voice-related quality of life of amateur solo singers in a Christian church and its relation to possible voice complaints. **Methods:** cross-sectional, quantitative, descriptive study with population of 49 amateur singers of a Christian church. All subjects signed the free-informed consent term. Then, they answered an identification questionnaire and completed the following instruments: Voice-Related Quality of Life (V-RQOL), Screening Index for Voice Disorder (SIVD) and Voice Handicap in Modern Singing Modern Singing Handicap Index (VHMS MSHI). **Results:** Of the total population, 28.7% (14) were men and 71.4% (35) were women with mean age of 26 years (± 6.3). The mean V-RQOL score was 84.9 (± 13.7), the mean VHMS total score was 30.9 (± 20.9). The mean score in the SIVD was 1.7. The following symptoms were reported by this population: 30,6 (35) breaking voice; 26.5% (13) phlegm; 20.3% (10) low-pitched voice; 18.4% (9) dry throat; 16.3% (8) strained speech; 14.3% (7) voice loss; 14.3% (7) hoarseness; 14.3% (7) dry cough; 4.1% (2) pain when speaking; 4.1% (2) secretion/

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phlegm in throat; and 2,0% (1) pain when swallowing. **Conclusion:** the amateur church solo singers in this study do not have frequent voice complaints. When they are present, the impact of these symptoms is seen only in singing. However, possible impacts of the complaints do not affect voice-related quality of life. About one third of the singers in this study warm up their voices and take singing lessons, so this may be related to the small occurrence of complaints. Further studies that will aid in monitoring the vocal health of these singers should be conducted.

Keywords: Speech, Language and Hearing Sciences; Voice; Voice Quality; Singing.

Resumo

Objetivo: analisar a qualidade de vida relacionada à voz de cantores solistas amadores de uma igreja evangélica e sua relação com eventuais queixas vocais. **Método:** estudo de caráter transversal descritivo e quantitativo, cuja população é formada por 49 cantores amadores de igreja evangélica. Os participantes foram esclarecidos quanto aos objetivos da pesquisa, em seguida, responderam a um questionário de identificação e preencheram os seguintes instrumentos: Qualidade de Vida em Voz (QVV), Índice de Triagem para Distúrbio de Voz (ITDV) e Índice de Desvantagem para o Canto Moderno (IDCM). **Resultados:** Da população total, 28,7% (14) eram homens e 71,4% (35) mulheres com idade média de 26 anos ($\pm 6,3$). A média do escore geral do QVV foi 84,9 ($\pm 13,7$), do IDCM de 30,9 ($\pm 20,9$). O escore médio no ITDV foi de 1,7. As queixas referidas por esta população foram: 30,6% (35) quebras na voz; 26,5% (13) pigarro; 20,3% (10) voz grossa; 18,4% (9) garganta seca; 16,3% (8) cansaço ao falar; 14,3% (7) perda da voz; 14,3% (7) rouquidão; 14,3% (7) tosse seca; 4,1% (2) dor ao falar; 4,1% (2) secreção/catarro na garganta; e 2% (1) dor ao engolir. **Conclusão:** Os cantores solistas amadores de igreja deste estudo possuem queixas pouco frequentes. Quando presentes, seu impacto é percebido apenas na atividade do canto. No entanto, as alterações causadas pelas queixas não afetam a sua qualidade de vida relacionada à voz. Cerca de um terço da população estudada realiza aquecimento vocal, associado à realização de aulas de técnica vocal, o que indica que existe uma preocupação no que diz respeito à saúde vocal e pode ter contribuído para a baixa ocorrência de queixas vocais. Sugere-se que seja realizado um seguimento para monitorar a saúde vocal desses cantores.

Palavras-chave: Fonoaudiologia; Voz; Qualidade da Voz; Canto.

Resumen

Objetivo Analizar la calidad de vida relacionada con la voz de cantantes solistas aficionados de una iglesia evangélica y su relación con eventuales quejas vocales. **Métodos** Estudio de carácter transversal descriptivo y cuantitativo, con población compuesta por 49 cantantes aficionados de iglesia evangélica. Los participantes fueron informados sobre los objetivos de la investigación, contestaron a un formulario de identificación y llenaron los siguientes protocolos: Calidad de Vida en Voz (QVV) Índice de Tria para Trastornos de Voz (ITDV) y Índice de Desventaja para el Cantar Moderno (IDCM). **Resultados** De la población total el 28,7% (14) eran hombres y el 71,4% (35) mujeres con promedio de edad de 26 años ($\pm 6,3$). La puntuación media de la QVV fue 84,9 ($\pm 13,7$), del IDCM de 30,9 ($\pm 20,9$). La puntuación media del ITDV fue de 1,7. Las quejas de esta población fueron: 30.6% (35) rompimientos de voz; 26,5% (13) flema; 20,3% (10) voz gruesa; 18.4% (9) garganta seca; 16,3% (8) fatiga vocal; 14,3% (7) pérdida de la voz; 14,3% (7) ronquera; 14,3% (7) tos seca; 4,1% (2) dolor al hablar; 4,1% (2) secreción/flema en la garganta; y 2% (1) dolor al tragar. **Conclusión** Los cantores solistas de iglesia aficionados de iglesia de este estudio tienen quejas poco frecuentes. Cuando presentes, su impacto se percibe sólo en la actividad de cantar. Sin embargo, los cambios provocados por las quejas no afectan a la calidad de vida relacionada con la voz. Alrededor de un tercio de la población del estudio realiza el calentamiento vocal, asociado con la realización de clases de técnica vocal, lo que indica que existe una preocupación por la salud vocal que puede haber contribuido a la baja incidencia de quejas vocales. Se sugiere que se realice un seguimiento para controlar la salud vocal de estos cantantes.

Palabras clave: Fonoaudiología; Voz; Calidad de la Voz; Canto.

Introduction

The same organs of the vocal tract are used to speak and sing. However, specific adjustments are required for singing. The singing voice is a coordinated interaction of breathing, enunciation and resonance, and is different from that required for the spoken voice¹.

Wishing to sing is closely related to the well-being this activity brings to the individual, and this may be an important means of expressing feelings, expanding communicative potential or simply a way of making oneself heard².

In Brazil, studies concerning the sociology of religion show a considerable growth in religious songs in communication vehicles such as television shows, making it a main player in spreading the gospel³⁻⁴. Since the 1990's, this musical genre has been encompassing diverse musical styles, attracting more and more listeners⁵. As music in church is being valued by the media and the general audiences, there has been an increasingly larger possibility for the participation of new singers in churches. A large part of this population sings without guidance or instructions concerning vocal use, and does not know which attitudes are considered "abusive" to the voice and how harmful these habits can be⁶. In addition to the professional singers, there are many who engage in these activities for its emotional or spiritual appeal, without considering their voice limitations and, thus, become vulnerable to disorders that will interfere with their vocal performance⁷.

The Speech-Language Pathologist and Audiologist is the professional who is responsible for prevention and treatment of voice disorders, in addition to improving vocal and speech patterns. Throughout the years this professional has been largely improving his role in health promotion and prevention of voice disorders in singers. Leite et al.⁸ have found a significant increase in the search for Speech-Language Pathology and Audiological care of amateur church singers and that these singers also mentioned abusing or misusing their voices. The same authors state that these subjects' complaints are related to superficial guidance concerning adequate vocal use.

A study conducted at the State University of Health Sciences in Alagoas - Maceió, aiming to determine the vocal profile of these individuals, showed that 81.8% of study participants noticed a negative change in their voices after engaging

in singing activities in church, and revealed that singers reported difficulties in reaching high notes, hoarseness and voice breaks⁹. Another study reported similar complaints in this population, such as phlegm, hoarseness, weak voice and detuning⁸.

Many singers in church gospel groups have little or no knowledge about their voices and, when taken, the protective measures are not enough to set aside the risk for voice disorder. It should also be considered that there are usually no auditions when these singers begin their activities and that the major concern is to spread the religious message through music, making the actual quality of the singing a secondary concern⁷⁻⁸⁻⁹.

Considering that incorrect voice use, along with specific biological factors may result in changes in the tissues of the involved structures and also in laryngeal lesions¹⁰, and that each singing genre has specific and different technical and aesthetical demands, the Speech-Language Pathologist and Audiologist who works with singers must have concrete data about the amount of information and characteristics of the vocal use of religious singers. However, most studies on religious singers concerns choirs, and not gospel groups⁸.

Therefore, the purpose of this study is to analyze the voice-related quality of life of soloists in a Christian church and its relation with these singers' possible vocal complaints.

Methods

This is a cross-sectional descriptive, quantitative study, conducted after approval by the Ethics Committee for Research involving Human Beings at the State University of Santa Catarina, registered under number CAAE 42937314.8.0000.0118.

The subjects of this study were 49 solo amateur singers of the gospel ministries of five chapters of the "Palavra Viva" Baptist Church in Florianópolis, Santa Catarina. The subjects included in the study were of both sexes, with minimum age of 18 years who sang in this specific church (in any of its chapters) for at least three months since, before this period, the singers take part only in rehearsals and not in public presentations. Those singers who were over 45 years of age were excluded in order to respect the maximum vocal efficiency period¹⁰.

The number of singers in each church chapter was surveyed, and for this study, the five chapters with the highest number of singers were chosen.

Analysis was conducted considering the total number of subjects since singing is usually standardized in this religion, which meant that the variable “church chapter” was not used in data analysis.

After chapter consent, on a previously scheduled date, the singers were contacted before their weekly rehearsal and invited to participate in the study. All purposes in the study were explained and the subjects were asked to sign a Free-Consent Term (FCT).

Those who agreed to partake were asked to complete, in writing, individually, four questionnaires in a silent room provided by each church chapter. One of the researchers remained in the room in order to answer any questions. Questionnaire completion took, approximately, one hour.

The instruments completed by the subjects were an identification questionnaire, the Voice-Related Quality of Life protocol (V-RQOL)¹¹⁻¹², the Modern Singing Handicap Index (MSHI)¹³ and the Screening Index for Voice Disorder (SIVD)¹⁴.

The questionnaire used for subject identification and characterization was developed by the researchers and was composed of personal identification items such as: name, sex, age, occupation, time in gospel group and vocal classification. The subjects also answered questions concerning their singing activities, such as the number of days per week they rehearse and how many hours per rehearsal of voice use, number of days per week of singing performance, vocal warm-up, singing lessons and, if so, for how long.

The Voice-Related Quality of Life (V-RQOL) protocol was used in its Brazilian version, which was translated and standardized for use in the Brazilian Portuguese language. Its aim is to investigate issues related to the voice and to quantify the influence of voice disorders in the individual’s daily life. It is composed of 10 questions belonging to a physical and to a social/emotional subscale. The subject should answer in a 5-point Likert scale where 1 corresponds to “never happens and is not a problem”, 2 to “seldom happens and is rarely a problem”, 3 to “sometimes happens and is a moderate problem”, 4 to “happens often and is almost always a problem” and 5 to “always happens and is a very bad problem”. Results are composed of the calculations of three separate scores, a total score and two regarding the separate subscales. In this study, however, only the total score was used, reached by using the formula $100 - (\text{raw score} - 10)$

$\times 100 / (50 - 10)$. The higher the score, the better is the individual’s voice-related quality of life.

The Modern Singing Handicap Index – MSHI protocol was used in its cultural adaptation and translation for use in Brazilian Portuguese. The instrument has three subscales: disability (functional), handicap (emotional) and impairment (organic). Each subscale has 10 items that identify specific disorders. In total, there are 30 items that should be answered in a 5-point Likert scale (0 to 4), according to the frequency in which it occurs (0: never, 1: seldom, 2: sometimes, 3: often, 4: always). Each part of the MSHI has a maximum score of 40, and the maximum total score is 120, obtained by a simple sum. The greater the score, the greater the handicap perceived by the subject regarding his singing activities. This instrument has already proved efficient in a study with religious singers where it was observed that the disability degree was proportional to the observed vocal handicap¹³. Furthermore, according to Moreti et al¹³, this instrument was very sensitive in perceiving the origin of voice disorders, making it an ally in identifying voice-related problems.

The Screening Index for Voice-Disorder (SIVD) is a list of voice-related symptoms that aims to screen subjects with a possible voice disorder¹⁴. It is composed by 12 items graded on a 4-point Likert scale, according to the frequency with which each symptom is experienced: “never”, “seldom”, “often”, or “always”. The score results from a sum, where the first two options (never and seldom) are worth 0 and the final options (often and always) receive 1 point. The subject will have passed screening if he/she obtains a score below 5 points. This instrument was used since it has a list of vocal symptoms and its completion is simple and fast.

The data were entered in an Excel spreadsheet, specifically developed for this study and were submitted to descriptive (central tendency and dispersion measures) and inferential statistical analysis using the SPSS software for Windows, in its 17.1 version. The Chi-Square test with significance level set at 5% was used for analysis. The tests were conducted comparing the means of the respective variables.

Results

The population of this study was composed of 49 subjects, 14 men and 35 women, with mean

age of 26 years (± 6.3). The subjects had a mean time of participation in Gospel singing groups of 1 year and 10 months (minimum 3 months and maximum 12 years). The mean weekly time of singing (considering rehearsal and church singing hours) is 1.77 hours per week (minimum one hour and maximum 3 hours). Of all the subjects, 48% (22) reported performance of vocal warm-up and 53.1% (26) reported taking or having taken vocal technique classes in the past, for a mean time of eight months. Of the total sample, 30.6% (15) take or have taken lessons and perform vocal warm-up.

Considering the data obtained from the identification questionnaire, there was a statistically significant association between performing vocal warm-up and vocal technique classes in the present or past, showing that the subjects who report the use of techniques to warm-up their voices before rehearsals or presentations are those who have or have had guidance of a voice coach ($p = 0,05$).

The sample's mean score in the V-RQOL instrument was 84.9 points (± 13.75). Of all evaluated subjects, only 4.1% (2) scored lower than 60. Even though there is no pre-established cut-off, this instrument determines that, the greater the total score, the greater the subject's voice-related quality of life.

Results from the SIVD show that the subjects do not experience frequent vocal symptoms (frequently or Always), since the mean score (corresponding to the simple sum of the number

of symptoms reported frequently or always) in this instrument was 1.7. It has also been observed that 32.6% (16) subjects scored 3 or higher and only 6.1% (3) subjects scored higher than 5 in this instrument. The most commonly reported symptoms occurring 'frequently' and 'always' are shown in figure 1.

Regarding the MSHI, the mean score was 30.9 (± 20.9). No subjects had low handicap indexes related to singing. Figure 2 shows the greatest difficulties reported by the subjects.

The mean scores in the V-RQOL and the MSHI were compared using the Chi-square test and the results show a statistically significant relation between the two instruments. Thus, the subjects with the highest scores in the V-RQOL are those who did better in the MSHI ($p < 0,001$), which specifically regards vocal use during singing.

Likewise, when the mean total MSHI scores were compared to the SIVD scores (less than three frequently reported symptoms or three or more frequent symptoms), there was a statistically significant association, showing that the subjects with the highest MSHI scores are those with more symptoms frequently reported in the SIVD ($p < 0,001$).

The same comparison involving the SIVD scores and the V-RQOL scores was not considered statistically significant, showing that the greatest handicap observed is, in fact, during singing and not in the overall voice-related quality of life.

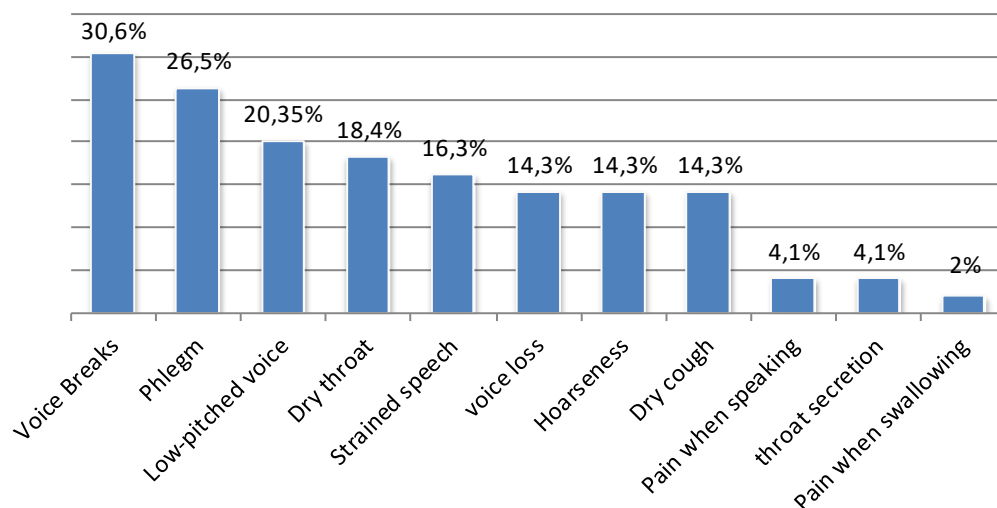


Figure 1. Most-often reported symptoms occurring 'frequently' and 'always' according to the SIVD.

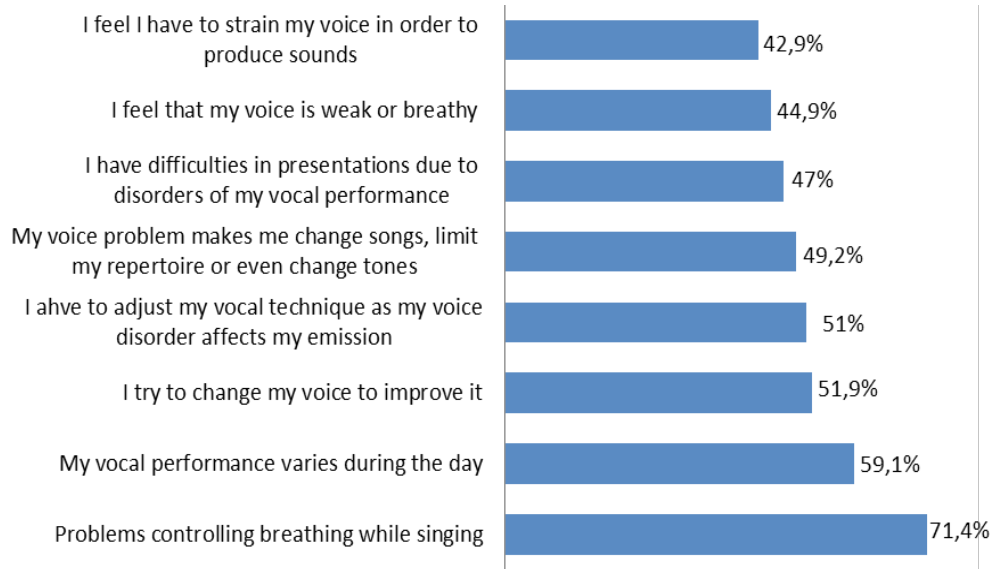


Figure 2. Greatest difficulties reported by the subjects on the MSHI.

Discussion

In spite of most studies about religious singing being directed towards choirs^{6,8}, it may be seen that there is a growing number of studies aiming to characterize the universe of religious singers, including amateur solo singers who use their voices in this context¹⁵. This growing interest may be due to the currently greater media visibility of gospel music³⁻⁴. There is concern, however, due to the fact that this kind of singing occurs, many times, in high intensities, and in environments with unfavorable acoustics, predisposing the subjects to vocal abuse and consequent onset of spoken and singing voice complaints and disorders¹⁶⁻¹⁷.

The purpose of this study was to analyze the voice-related quality of life of solo amateur singers of a Christian church and its relation to possible voice complaints. Performance of vocal warm-up is one of the main measures in order to maintain vocal health. In the present study, 30.6% (35) of the subjects reported warming up their voices before singing in church, with a significant association to voice technique lessons in the present or in the past. Literature shows the several benefits related to vocal warm-up, such as: increase in vocal resistance, improvement in voice quality, decrease of vocal fold overload and decrease in the onset of voice disorders¹⁷. The latter, mainly, may justify

the low occurrence of voice complaints in the studied population. In this perspective, Gusmão, et al¹⁷ point out that performing vocal warm-up is not related to the time of voice technique classes, but to the knowledge of how the muscles used during singing work. Therefore, it may be stated that voice technique classes are an extremely important resource for any singer, and religious singers should also be targeted in Speech-Language Pathology and Audiology actions in health promotion and prevention of voice disorders.

The results of one study about the vocal health of Gospel singers show that these singers, especially the amateur ones, have greater concern in transmitting their message of Faith to the members of the church community and, therefore, voice quality is not considered an essential factor for singing⁷⁻⁸.

The overall V-RQOL score of the present study seems to point in that same direction since, even with a few self-reported vocal symptoms, 87.8% of the subjects had scores over 70, showing that occasional voice deviations do not interfere in their daily lives. According to Viola et al¹⁵, subjects who use their voices in church, such as ministers and singers, rarely see voice disorders as a risk of not being able to perform their vocal activities and state that “*the impact of voice on quality of life is insignificant*” and that even if these singers are

aware of the presence of occasional disorders, these subjects are satisfied with their voices.

However, when comparing the overall V-RQOL and MSHI scores, it is observed that in spite of the absence of disorders, the lower the V-RQOL, the greater the subject's singing voice handicap; that is, albeit the small influence on their general voice-related quality of life, the subject's perception regarding his voice and possible difficulties related to singing is pertinent.

This is perhaps also due to the fact that singing-related problems may be manifesting at the time, but the disorders are not important enough to be perceived in everyday speech and affecting the V-RQOL. It should be stated that the inclusion criteria in this study was 3 months of singing activity in church was three months and that the mean time of the subject's activity was less than two years (1 year and 10 months).

It is possible that, in there being the presence of vocal symptoms at this time, if these are not adequately identified and/or treated, they may evolve towards an installed voice disorder¹⁸⁻¹⁹, causing greater harm to communication in general. This population should undergo follow-ups considering the fact that the spoken or singing voice in church may be overlooked when compared to the importance of praying and manifestations of faith². This may delay the search for professional aid in assessment and treatment of functional or organic-functional voice disorders in this population.

The analysis of the SIVD data showed that albeit not frequently, this population reports a myriad of vocal symptoms, such as: voice breaks, phlegm, low-pitched voice and dry throat. Other studies show that phlegm and/or dry throat are among the five most prevalent symptoms in amateur singers. Inadequate vocal technique, incorrect or intense vocal use, wrong vocal classification and lack of guidance in vocal health measures may be among their main causes²⁻⁸⁻¹⁸⁻¹⁹.

The lack of a specific instrument to identify the complaints of amateur or professional singers makes the process of specifically characterizing this population more difficult. In this study, the option of using the SIVD was made as this instrument consists of a list of the main vocal symptoms and is easy and fast to complete.

The comparison of the overall MSHI and SIVD scores showed that the greater the number of symptoms reported frequently, the greater the

subject's handicap regarding singing. Since comparing the number of symptoms frequently reported to the overall V-RQOL score yielded no significant relations, one may suppose that the subject's perception of the reported symptoms is more present during singing.

Recent studies with amateur singers, in both Gospel ministries or choirs, show that the occurrence of one or more vocal symptoms, in the long run, may be indicative of a voice disorder¹⁷. Therefore, the data in this study alert towards the fact that may church singers who are still young and relatively new to this activity perceive voice disorders during singing and that only part of this population takes measures towards their vocal health such as performing vocal warm-up, for example. Thus, there is a need for guidance in this population regarding vocal functioning mechanisms and healthy voice-related habits regarding both the spoken and singing voices.

Conclusion

The data show that solo amateur church singers have few vocal complaints. These complaints, when present, impact only these individuals' singing activities. However, the disorders caused by the complaints do not affect their overall voice-related quality of life. Part of this population (30%) warms-up their voices, in association with taking voice lessons, indicating a concern regarding vocal health. Therefore, follow-ups are suggested, in order to monitor these singers' vocal health in order to study a possible increase in vocal complaints in relation to the time that the activity has been developed.

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