INFLUENCE OF CHORAL SINGING ON THE VOICE-RELATED QUALITY OF LIFE OF PUBLIC HEALTH SERVICE USERS

Influência do canto coral na qualidade de vida em voz dos usuários do serviço público de saúde

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ABSTRACT

Purpose: to investigate the voice-related quality of life of participating in a singing group promoted by public health system professionals. **Methods:** the study was conducted with 86 individuals of both sexes, 46 made up the control group, and 40, the study group, whose members participated in the singing group. Participants completed the questionnaire Voice-Related Quality of life (V-RQOL) validated for Brazilian Portuguese. To find the difference between the means of the groups, was used the nonparametric Mann-Whitney test, with significance <0.05. **Results:** the average age of the groups were 60,82 for the control group, and 58,95 study group, with no statistical difference between the groups. The total scores and related to each domain separately, were well similar between groups, with no significant difference (p = 0.9295). Furthermore, it was found that the residence time in the *EnCanto* group did not influence the outcome scores. **Conclusion:** there was no significant difference between the scores of the groups, which may have been influenced by the fact that both have presented scores within the normal range. Similarly, the scores were not differentiated by time spent in the study group, which may be related to the antagonistic influence caused by presbylarynx process, because it is a predominantly elderly population. However, further studies are needed.

KEYWORDS: Health Promotion; Voice; Quality of Life; Unified Health System; Singing

INTRODUCTION

Voice is one of the most beautiful expressions of humankind, as it doesn't only facilitate communication, but it is also able to convey the speaker's feelings and personal characteristics such as age, gender, personality, as well as relate to the mental state of the individual [1].

When this communication tool is compromised in some way, interaction between subjects can be difficult and thus make them less sociable and prone to isolation, which, consequently, creates a decrease in their quality of life [2]. Therefore, it is believed that the prevention of vocal injuries and promoting voice quality corroborate the improvement of communication and social relations, as it avoids isolation, as well as being economically viable to promoters since they require only basic healthcare technologies [3].

The benefits of an action with the goal of promoting socialization and communication become even more intensified when it is established collectively. Currently, it is known that collective health experiences allowed in group interventions, value and legitimize knowledge, and make those involved feel participant and co-responsible for their own health, transcending the biomedical model of understanding the health-disease process and

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Conflict of interest: non-existent

implementing increasingly focused attention on the person [4].

As an example of a successful collective intervention, a study described in the literature investigated the effects of group vocal therapy of dysphonic teachers and found significant statistical improvement in participants' voice-related quality of life as well as an association of this positive outcome to the group treatment category [5].

However, one cannot deny how challenging it is keeping the participants of a group focused and committed to a common purpose, requiring that their coordinators use a few strategies that facilitate this process, among which one may include the use of musicality. Music has been used in health, not only as a promotional tool, but also for treatment of injuries and to emphasize the comfort of terminally ill patients, as it promotes well-being, autonomy and expression of emotions [6]. In addition, this powerful art positively impacts the quality of life of health services users and may even influence blood pressure control and chronic pain [7,8].

With the aforementioned focus, the group *Encanto* was created in 2011, coordinated by speech therapists of NASF (acronym in Portuguese for *Support Center for Family Health*) in the city of Belo Horizonte, which aims to promote communicative and interactive quality among participants, using music as the primary element of its operation. The group is divided into three subgroups that gather at different locations in the Barreiro District, facilitating user access and their participation. However, there are times when they all come together in one place to fraternize and conduct presentations of songs rehearsed during meetings.

Interventions such as this should be investigated as for the benefits generated in the community in which they operate, not only promoting social acceptance and participation, but also attracting government resources for its proper working. With this goal, the purpose of this study is to investigate the voice-related quality of life of participants in a singing group promoted by public health system professionals.

METHODS

This is a cross sectional study.

All participants signed the TCLE (acronym in Portuguese for *Informed Consent Form*) and this study was approved by the Ethics Committee of Belo Horizonte's Health Department under the advice number 328,911.

Eighty-six (86) individuals participated in the study, SUS (acronym in Portuguese for *Public Health System*) users in the city of Belo Horizonte. Among the participants, 40 belonged to the group *Encanto*, which in this research is constituted as the study group, being mostly women (90%) and the average age was 60.82 years (SD=7.46). The remaining 46 individuals composed the control group, which was composed of health clinic users located in the same district frequented by those participating in the study group, with an average age of 58.95 years (SD=13.92) and also composed, predominantly by women (89.1%). It is important to point out that the groups were matched by gender, age and socio-cultural context.

The study excluded individuals participating in the group *Encanto* for less than one month and who did not belong to the coverage area of health clinics located in the Barreiro District in Belo Horizonte. Regarding the control group, the people who participated in some activity involving the practice of singing were excluded, as well as those who couldn't be matched to the study group by gender, age and socio-cultural context.

The analysis of the vocal impact on quality of life was assessed using the QVV (acronym in Portuguese for *Voice-Related Quality of Life*) questionnaire, validated in Brazilian Portuguese in 2009 [9]. This questionnaire aims to measure the impact of vocal disorders in various aspects of life related to oral communication, comprising 10 items divided into two areas: socio-emotional and physical. This instrument follows a numerical scale of 1 to 5 and the scale values correspond to the following situations: 1 = not a problem, 2 = it is a small problem, 3 = it is a moderate / medium problem, 4 = it is a big problem and 5 = it is a very big problem (Figure 1). The analysis is performed from the score of each area as well as the total score, and as closer as the result is to 100, the better is the subject's voice-related quality of life [9].

Name_____ Date: _____

Age: _____

We are trying to understand better how a voice problem can interfere with the daily life activities. We present a list of possible problems related to the voice. Please answer all the questions based on how your voice has been over the last two week. There are no right or wrong answers.

To complete the questionnaire, consider both how severe the problem is and how often it occurs, evaluating each item below according to the amount of problem that you have. The scale that you will use is the following:

1 = none, not a problem
2 = a small amount
3 = a moderate (medium) amount
4 = frequently
5 = problem is “as big as it can be”

Because of my voice	How much is this a problem?				
1. I have trouble speaking loudly or being Heard in noisy situations.	1	2	3	4	5
2. I run out of air and need to take frequent breaths when talking.	1	2	3	4	5
3. I do not know what will come out when I begin speaking.	1	2	3	4	5
4. I am anxious or frustrated.	1	2	3	4	5
5. I get depressed.	1	2	3	4	5
6. I have trouble using the telephone.	1	2	3	4	5
7. I have trouble doing my job or practicing my profession.	1	2	3	4	5
8. I avoid going out socially.	1	2	3	4	5
9. I have to repeat myself to be understood.	1	2	3	4	5
10. I have become less outgoing.	1	2	3	4	5

Figure 1 – Voice-related Quality of Life (V-RQOL) protocol (Gasparini, Behlau, 2009).

Statistical analysis was performed using the program Excel 2007 and the nonparametric Mann-Whitney test for independent samples, in order to verify the significance level of *p* in relation to the total score of the groups; considering significant *p* values ≤ 0.05.

RESULTS

Since the groups that make up this study were matched by gender, age, and socio-cultural context, statistical tests related to these variables were not performed.

Both the total scores, as well as those related to each separate area proved very similar between groups (Table 1).

By analyzing the total scores of the groups with the nonparametric Mann-Whitney test, there was no significant difference (*p*=0.9295); which can also be displayed graphically (Figure 2).

Similarly, it was found that the length of stay in the group *Encanto* did not influence the outcome of scores (Figure 3).

Table 1 – Mean values of the scores by the groups.

	Social-emotional domain	Physical domain	Total score
EnCanto	96%	90%	92%
Control	96%	88%	91%

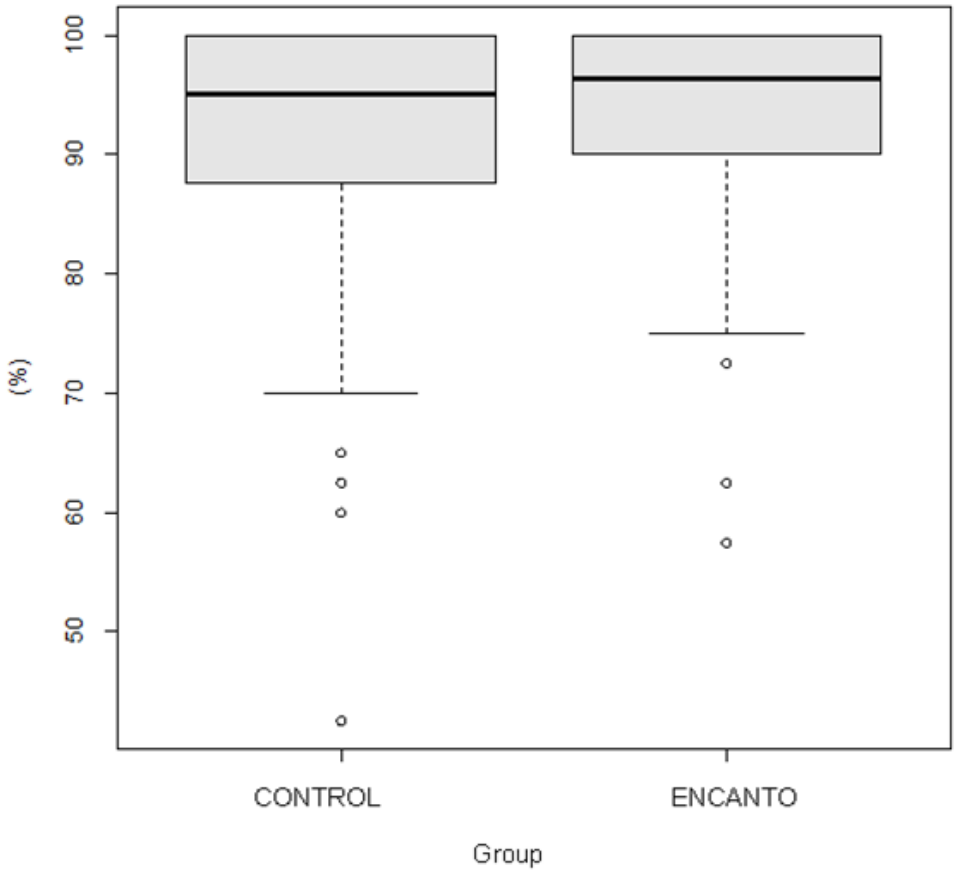

Figure 2 – Graph showing the means of the groups Control and EnCanto of the total scores of questionnaire.

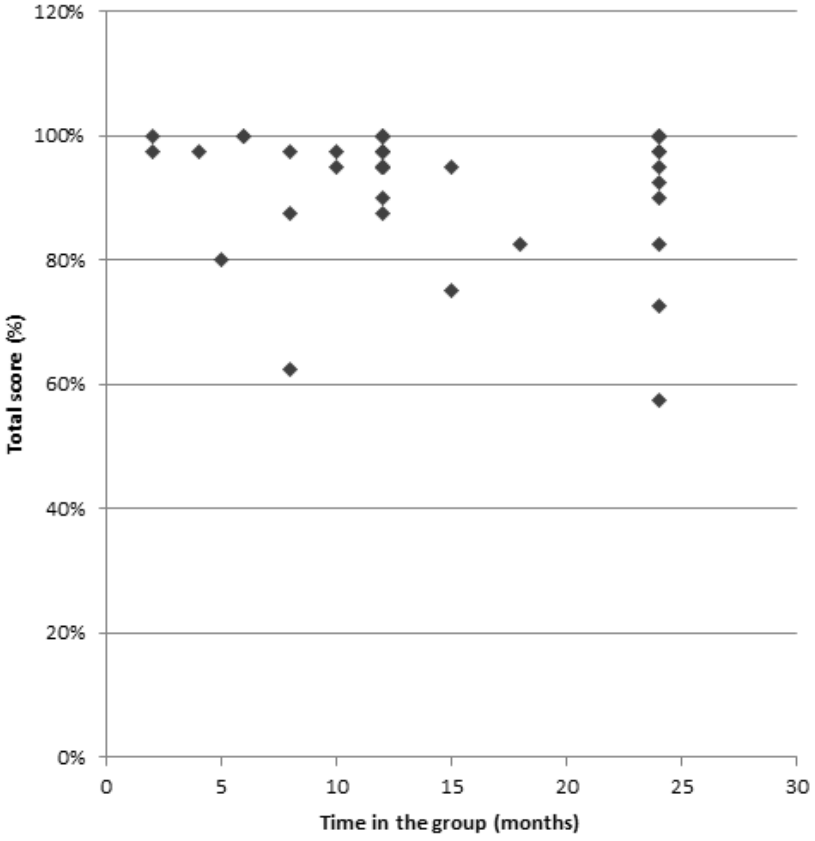

Figure 3 – Graph showing the relation between time in the *EnCanto* group and the total score.

DISCUSSION

The lack of significant difference between the scores of the surveyed groups may make, at first, one think that the *Encanto* group, whose main objective is to promote communicative and interactive quality among its participants, does not positively influence the voice-related quality of life of its members. However, this result can lead us to several reflections that justifies it.

Firstly, considering that according to the protocol used, the higher the score, the better the voice-related quality of life of the subjects (Figure 1), it can be seen that the average shown by the two groups in this study (Table 1) is similar to the average voice-related quality of life of the Brazilian population, as can be verified in the literature, whose benchmark index for individuals without vocal complaints is 94.3% (SD=8.5) for the physical area, 98% (SD=6.5) for the socio-emotional area and 95.5% (SD=8.7) for the total score [10]. This result is also close to the one presented by elderly choir members, whose average total score found in the literature was 96.7% [11].

Therefore, the results of the study group, in other words, the scores related to their vocal quality of life, may not have proved higher than the control group because both were already located within the normal range. In this case, participation in the group *Encanto* would be important not to promote voice-related quality of life, but to prevent the emergence of vocal disorders that may, in the future, negatively impact such quality of life. This is in agreement with the literature, which features choral singing as a maintenance strategy of vocal health, and is also considered a prophylactic measure for voice aging [12].

In addition, one should take into consideration that one of the criteria for control group exclusion constituted in practicing some activity that involved singing, since this practice requires different breathing and phonation adjustments from those that occur in the spoken voice, being far more complex and refined [13]. So, disassociating these subjects from a practice that involves a greater vocal demand, as in singing, can lead them to underestimate their vocal symptoms not realizing them as negatively impacting the quality of life, thus bringing, their scores up.

This study also showed that the time spent in the group *Encanto* did not influence the score

results (Figure 3), which is justified because if on the one hand, there was an increase of knowledge and practice of proper vocal techniques for singing, favoring rising scores [14], on the other hand, laryngeal aging and appearance of presbyphonia cooperate to reduce the values, since the study group, as an average, is composed of elders.

Corroborating this finding, studies report that the longer the singer's experience, lesser will be his or her vocal disadvantage, since the necessary muscle adjustments at the beginning of his or her performance as a singer can lead to discomfort as they are different from the customary ones used in speech, and they are reduced over time. Thus, the shorter the period of singing voice development, greater will be the perceived vocal disadvantages [15,16]. However, one should take into account that this study includes mostly individuals over 45 years old, age after which begins the presbylarynx process, which constitutes the aging of laryngeal structures, leading consequently to varying vocal impacts [17]. Therefore, the antagonistic action of the factors contribute to the scores remaining stable over participation time in the group *Encanto*.

And finally, it should be considered that the instrument used (QVV) may have been insufficient to verify the actual impact that participation in the group *Encanto* generates for the quality of life of its members, since the protocol is restricted exclusively to the vocal aspects. Also considering that currently there are many protocols available to measure the impact that activities promote for the quality of life of the population, it is believed that different results could have been seen with other protocols; since reports as reduction in the use of antidepressants, blood pressure control, increased energy, among others, are present in weekly meetings held by the group, but were not included in this study because they are not directly related to the voice. Thus arises the need for more comprehensive studies to verify the benefits obtained by participating in the group.

CONCLUSION

The study showed no significant difference between the scores of the participants of the group *Encanto* and the control group regarding the voice-related quality of life, which may have been influenced by the fact that both groups have presented scores within the normal range.

Similarly, the scores were not differentiated by length of stay in the *Encanto* group, which may be related to antagonistic influence caused by presbylarynx process.

However, many other benefits not covered by the protocol used in this study were verified by the participants in the *Encanto* group and it is important to perform further studies.

RESUMO

Objetivo: investigar a qualidade de vida relacionada à voz de participantes de um grupo de canto promovido por profissionais do sistema público de saúde. **Métodos:** o estudo foi realizado com 86 indivíduos de ambos os sexos, dos quais 46 compunham o grupo controle e 40, o grupo em estudo, cujos usuários participavam do grupo de canto. Os participantes preencheram o questionário de Qualidade de Vida em Voz validado para o português brasileiro. Para verificar a diferença entre as médias dos grupos foi utilizado o teste não paramétrico de Mann-Whitney, com significância ≤ 0,05. **Resultado:** as médias de idade dos grupos foram 58,95 anos para o grupo controle e 60,82 anos para o grupo estudo, não havendo diferença estatística entre as médias. Tanto os escores totais, quanto os relacionados a cada domínio separadamente, se mostraram bem semelhantes entre os grupos, não tendo sido encontrada diferença significante (p=0,9295). Além disso, foi verificado que o tempo de permanência no grupo *EnCanto* não influenciou no resultado dos escores. **Conclusão:** não houve diferença significante entre os escores dos grupos, o que pode ter sido influenciado pelo fato de ambos já apresentarem escores dentro da normalidade. Semelhantemente, os escores não foram diferenciados pelo tempo de permanência no grupo *EnCanto*, podendo estar relacionado à influência antagônica causada pelo processo de presbilaringe, por se tratar de uma população predominantemente idosa. Entretanto, são necessários novos estudos.

DESCRITORES: Promoção da Saúde; Voz; Qualidade de Vida; Sistema Único de Saúde; Canto

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Received on: February 19, 2014
Accepted on: June 16, 2015

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