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Main reasons that lead popular-music singing teachers to seek speech-language pathology assistance for their students

Principais fatores que levam os professores de canto popular a buscar ajuda fonoaudiológica

Keywords

Health Evaluation
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Descritores

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ABSTRACT

Purpose: To identify the parameters that influences the decision of singing teachers to seek speech-language pathology (SLP) assistance for their students. **Methods:** The study sample comprised 48 popular-music singing teachers, male and female, aged 37.96 years on average. The participants responded to a 10 closed-question questionnaire prepared by the researchers via the SurveyMonkey platform. The questions referred to the reasons why singing teachers seek SLP assistance, as well as to the knowledge of these teachers regarding chronic hoarseness as a risk symptom to identify other lesions in the larynx. **Results:** Singing teachers seek SLP assistance for their students in the presence of hoarseness complaints and impaired speech sound articulation. The singing teachers assessed did not consider vocal tiredness complaint as a determining factor for referral to SLP evaluation. Most study participants were not aware that a hoarseness complaint for over 15 days can be indicative of larynx tumor. There was no influence of the variables age and time of professional experience in the referral to SLP assistance. **Conclusion:** Most of the singing teachers who participated in this study sought SLP assistance for their students when they presented hoarseness complaints and impaired speech sound articulation.

RESUMO

Objetivo: Identificar os fatores que influenciam a decisão do professor de canto em solicitar ajuda fonoaudiológica para seus alunos. **Método:** Participaram do presente estudo 48 professores de canto popular, de ambos os sexos, com média de idade de 37,96 anos. Os participantes responderam via *SurveyMonkey* um questionário elaborado pelos pesquisadores, composto por dez perguntas, com respostas fechadas. Estas perguntas referiam-se aos motivos pelos quais o professor de canto popular busca ajuda fonoaudiológica e sobre o conhecimento desses professores a respeito da rouquidão persistente ser um sintoma de risco que identifique outro tipo de lesão na laringe. **Resultados:** Os resultados indicaram que professores de canto buscam ajuda fonoaudiológica na presença de queixa de voz rouca e dificuldade de articulação. Para os professores avaliados, a queixa de cansaço vocal não foi fator determinante para o encaminhamento fonoaudiológico. Houve maior proporção de professores de canto que não sabiam que queixa de rouquidão por mais do que quinze dias pode ser sinal de lesão maligna de laringe. Não houve influência das variáveis idade e tempo de prática de ensino de canto dos professores de canto popular no encaminhamento para Fonoaudiólogos. **Conclusão:** A maior parte dos professores de canto avaliados busca ajuda fonoaudiológica quando o aluno apresenta queixa de voz rouca e dificuldade de articulação dos sons da fala.

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INTRODUCTION

Singing is a manner of human vocal expression and, professionally, it is also a way that many artists express themselves. These artists need to perform laryngeal adjustments, which can be more or less complex, they also need to have a good airflow control, to use resonance cavities, breathing and speaking structures giving expressiveness in their emission⁽¹⁾, added to being in contact with the audience.

The singing style impacts in the interpretation of a song⁽²⁾. Thus, factors such as technique, training and vocal demand, in addition to the artist's perception of his own voice, are usually different due to the different singing styles or skills used by the artist^(2,3).

Overall, popular singers, that are the focus of this study, begin their professional careers because they enjoy singing and are interested in music since they were young; usually, their skills are developed intuitively. Later, many steps are taken until they become professionals and actually have a career in the music market^(1,4,5). In addition, in order to meet with the contracting demand and to please the audience, popular singers are required to sing several musical styles in the same performance⁽⁶⁾, which represents a physiological and technical challenge. Thus, the need of good vocal flexibility and different interpretation skills while singing is evident⁽⁶⁾, which can represent a real functional challenge.

Singing requires several laryngeal adjustments, therefore, it may favor the appearance of vocal symptoms and signs, especially related to inappropriate vocal use or vocal abuse^(1,7). Hence, singers are at risk for developing dysphonia, which has been already proven, due to the high occurrence of vocal disorders in this population^(8,9).

Previous studies indicate risk for the development of vocal disorders in this population. One research that aimed to analyze the vocal characteristics of Brazilian popular singers showed high occurrence of pneumophonoarticulatory incoordination, laryngeal resonance, imprecise articulation of speech sounds and abrupt vocal attack⁽¹⁾. Another study that evaluated the voice of night singers of the so-called "kitschy musical style" showed predominance of high pitch voice, high intensity, abrupt vocal attack, head and modal register and balanced resonance with nasal compensation; the only characteristic that was observed both in the singing voice and in the speaking voice was abrupt vocal attack⁽¹⁰⁾.

Although many professionals are aware of the vocal risk they are submitted to, these aspects previously explained, added to the professional needs of popular singers, make vocal abuse and misuse frequent in this singing style^(1,6). Sometimes, popular singers do not have their career impacted by vocal disorders; however, they are elite professional voice users, thus, mild vocal deviations may already impact professional, financial and personal (physical, mental, social, emotional and communicative) aspects⁽²⁾. Hence, it is extremely important to maintain vocal health in this population.

Whenever singers have any vocal complaint or doubts related to their voice they first seek the assistance of a singing teacher^(9,11), only later they seek for health professionals, such as medical

doctors and speech language pathologists⁽¹²⁾. Therefore, it is essential for the singing teachers to have specific knowledge in order to identify and differentiate complaints that may indicate vocal health problems and go beyond vocal pedagogy; thus, they will be able to perform the correct referral and to be a partner in health care for their students.

Although there are no established patterns that show when vocal pedagogy needs other professionals to be better supported, it is known that the interdisciplinarity between the speech language pathologist, the ear, neck and throat (ENT) doctor and the singing teacher, can assist in the vocal development of professional singers. The speech language pathologist works with vocal care is performed after an ENT diagnosis and consists of vocal assessment and therapy or vocal training. For the speech language pathologist to be able to work with vocal care, he has to perform a graduation course and, if possible, also a voice specialization. Regarding vocal pedagogy, there is no accredited comprehensive training program and no guidelines in the curriculum regarding vocal health, vocal science and clinical/medical applications; it is also unclear what are the necessary course certification to work in the field, which makes the knowledge and educational training methods heterogeneous⁽¹³⁾.

In addition, although singing teachers consider vocal health education important, many are unaware of vocal physiology, anatomy, hygiene, functions, and especially vocal pathologies⁽⁹⁾. Factors such as curriculum limitation, lack of financial resources and lack of time were reported as barriers for the singing teachers to understand and provide their students better vocal health information⁽⁹⁾. This often means that, even though the student does not improve in his singing, the teachers does not know if this is due to a factor related to vocal pedagogy or related to the speech language pathologist work. Hence, interdisciplinary between singing teachers and speech language pathologists does not happen⁽¹³⁾.

To know the factors that lead the popular singing teacher to seek the speech language pathologist can help to focus the attention in aspect that may show the importance of interdisciplinary to guarantee a better training for popular singers.

Thus, the aim of the present study was to identify the parameters that influence the singing teachers' decision to seek speech language assistance for their students.

METHODS

This is an observational, cross-sectional and quantitative study. It was approved by the Committee for Ethics in Research (protocol number 2.668.237).

The present study participants were recruited personally through the researchers network and online, using the SurveyMonkey platform. All individuals received information about the study objects, agreed to participate and signed an informed consent form.

The participants selection had predefined inclusion and exclusion criteria. The inclusion criteria were: popular singing teachers, male and female, with more than 18 years old. The exclusion criteria were: singing teachers with less than 3 years of professional experience. To verify if each participant fulfilled the inclusion

criteria they all answered a questionnaire with professional and identification data (Appendix A).

A total of 50 individuals answered the questionnaire; two did not fulfill the inclusion criteria and were excluded. Thus, the final sample counted with 48 popular singing teachers, with an average of 37.96 years old and 13 years of professional experience.

The selected participants answered another questionnaire elaborated by the researchers. This questionnaire had ten closed answers questions, based on their professional practice in singing. Nine out of the ten questions were related to factors that lead the singing teachers to refer their students to the speech language pathologist; the other one question was related to the knowledge of these teachers about persistent hoarseness as a risk symptom for presence of tumor in the larynx. For each question, the singing teachers had to answer yes or no.

Data regarding age and time of professional experience as a singing teacher were also used in the analysis.

The data were analyzed using descriptive and inferential statistics with the Statistics software, version 13.0 (Stat Soft Inc.)⁽¹⁴⁾.

The discrete quantitative variables age and time of professional experience as a singing teacher were analyzed with mean, standard deviation, median, first and third quartile. The qualitative nominal variables related to the factors that lead the singing teacher to refer their students to the speech language pathologist were analyzed by relative frequency and percentage.

For all statistical analysis the level of significance was set at 5% ($p < 0.05$). The Shapiro-Wilk test was used to test for normal distribution for the inferential statistical analysis; all variables were found to have a non-normal distribution. The test of Two Proportions was used to analyze and compare the qualitative variables.

The non-parametric Mann-Whitney test was used to analyze and compare the quantitative variables and qualitative variables.

RESULTS

Table 1 indicates that the proportion of popular singing teachers seeking speech language pathologist assistance for their students was significantly higher when there is complaint of a hoarse voice ($p < 0.001$) and difficulties in the articulation

Table 1. Analysis and comparison of the factors that led the singing teacher to seek for speech language pathologist guidance

Variable and category	n	%	p-value
Difficulty in high notes			
Yes	27	55.10	0.481
No	22	44.90	
Breathing difficulties			
Yes	22	44.90	0.481
No	27	55.10	
Complaint of hoarse voice			
Yes	43	87.76	<0.001*
No	6	12.24	
Difficulties in the articulation of speech sounds			
Yes	33	67.35	0.026*
No	16	32.65	
Complaint of lack of vocal projection			
Yes	19	38.78	0.132
No	30	61.22	
Complaint of reflux			
Yes	28	57.14	0.479
No	21	42.86	
Complaint of tiredness when talking for a few hours in a row			
Yes	13	26.53	0.004*
No	36	73.47	
Can only sing with increase vocal loudness			
Yes	26	53.06	0.670
No	23	46.94	
Frequent clear throat, dry throat or other discomfort in the throat			
Yes	19	38.78	0.132
No	30	61.22	
Did you know that a hoarse voice for more than 15 days may be a sign of vocal tumor			
Yes	14	28.57	0.008*
No	35	71.43	

Test of two proportions; * $p < 0.05$

Caption: n = number of participants; % = percentage of participants

Table 2. Analysis and comparison of the factors that led the singing teacher to seek for speech language pathologist guidance in relation to their age and their time of professional experience as a singing teacher

Variable and category	Yes			No			p-value
	Mean	SD	Median	Mean	SD	Median	
Difficulty in high notes							
Age	37.15	6.87	36.00	38.95	8.69	35.00	0.672
Time of professional experience	12.96	7.96	11.00	13.23	7.93	11.00	0.895
Breathing difficulties							
Age	39.64	7.88	38.00	36.59	7.44	35.00	0.138
Time of professional experience	15.14	8.61	13.50	11.41	6.92	10.00	0.125
Complaint of hoarse voice							
Age	37.91	7.51	36.00	38.33	9.83	36.50	0.818
Time of professional experience	12.81	7.49	11.00	15.00	10.84	15.00	0.690
Difficulties in the articulation of speech sounds							
Age	39.12	8.06	38.00	35.56	6.53	35.00	0.097
Time of professional experience	14.15	7.97	12.00	10.88	7.41	10.00	0.154
Complaint of lack of vocal projection							
Age	38.68	8.74	37.00	37.50	7.10	35.00	1.000
Time of professional experience	12.11	8.65	10.00	13.70	7.41	12.50	1.000
Complaint of reflux							
Age	38.32	7.46	37.50	37.48	8.19	35.00	0.453
Time of professional experience	14.04	8.44	11.50	11.81	7.03	10.00	0.434
Complaint of tiredness when talking for a few hours in a row							
Age	39.08	8.71	36.00	37.56	7.41	35.50	0.759
Time of professional experience	13.25	7.02	11.5	12.62	10.17	10.00	0.419
Can only sing with increase vocal loudness							
Age	39.15	8.76	37.00	36.61	6.24	35.00	0.520
Time of professional experience	14.39	8.07	15.00	11.92	7.65	10.00	0.231
Frequent clear throat, dry throat or other discomfort in the throat							
Age	38.74	8.84	37.00	37.47	7.02	35.00	0.557
Time of professional experience	15.37	8.77	13.00	11.63	7.00	10.00	0.127
Did you know that a hoarse voice for more than 15 days may be a sign of vocal tumor							
Age	42.07	8.19	41.00	36.31	6.97	35.00	1.000
Time of professional experience	11.89	7.02	10.00	16.07	9.28	15.00	1.000

Mann-Whitney Test; $p < 0.05$

Caption: SD = standard-deviation

of speech sounds ($p = 0.026$). Regarding tiredness when talking for a few hours in a row, it was observed that most singing teachers do not refer their students to a speech language pathologist when this is the main complaint ($p = 0.004$). It was also observed that most singing teachers did not know that the vocal complaint of hoarse voice for more than 15 days may be a sign of tumor ($p = 0.008$).

Table 2 showed that age and time of professional experience as a singing teacher had no influence on the singing teachers response regarding the factors that lead them to refer their students to the speech language pathologist.

DISCUSSION

Most popular singers begin their professional careers without knowledge of singing techniques and rely only on their desire and gift for singing⁽⁴⁾, more or less intuitively, despite of the professional need for vocal flexibility⁽⁶⁾. Although vocal deviations does not necessary mean limitations in popular singing,

personal habits, work environment and demand factors might put these professionals at risk to develop a vocal disorders⁽⁹⁾ and, in the presence of vocal health complaints, popular singers usually seek for the singing teacher assistance⁽⁹⁾. However, these professionals often does not have enough knowledge to identify whether the complaint is related to the technique or to vocal pathology. Considering the lack of information on factors that lead the singing teacher to search the speech language pathologist assistance when working with singers, this study aimed to analyze the main factors that influence the popular singing teachers to seek for the speech language pathologist assistance.

The participants of this study were adults with average of 13 years of professional experience as a singing teacher; similar to data of other speech language pathologist studies with singing teachers^(15,16). The data collection showed that most popular singing teachers have professional training in music, which may have contributed to the late start in the professional activity. Popular singing teachers are only younger than classical

singing teachers, who are usually older, have more experience and more frequently are graduated in music⁽¹⁵⁾.

Teacher more frequently seek for the speech language pathologist assistance for their students when there is complaint of hoarse voice (Table 1) and difficulty in the articulation of speech sounds (Table 1). Hoarseness is the most frequent complaint in popular singers⁽¹⁷⁾ and generally it is the most common vocal symptom. Usually, it is related to vocal misuse, vocal abuse or upper airway alterations⁽¹⁸⁾. When considering the elite professional voice users, such as singers, this vocal change may impact his professional performance, requiring in some cases immediate problem solution⁽²⁾.

Sharing the knowledge of the possible etiology and the consequences when there is a persistent vocal problem seems to be fundamental to improve the singers vocal health. In this study, most professionals referred their students to the speech language pathologist when they had complaint. It is noteworthy that this complaint could not be resolved by the singing teacher, once it requires drug intervention or vocal therapy, according to the etiology of the problem.

Regarding the articulation of speech sounds, it is believed that this was the most common factor that led teachers to refer their students to the speech language pathologist. This might have happened due to the important role that a good articulation of speech sounds and words play in the popular singing⁽¹⁷⁾. A precise articulation of the speech sounds is important for the listener to understand the message of musical phrases. This precise articulation with good vocal projection provides an efficient vocal adjustment for performances in large environments⁽¹⁷⁾. Such aspects are essential for amateur singers and need to be addressed to as soon as students begin their singing lessons, thus, they will have a better singing voice performance. This may explain the reason why singing teachers consider articulation complaints as an aspect that needs referral to the speech language pathologist.

Only a small part of the teachers referred their students to the speech language pathologist when they had the complaint of tiredness when talking for a few hours in a row (Table 1). Thus, contrary to what was expected, most popular singing teachers do not refer their students to a speech language pathologist when they identify complaints of tiredness when talking for a few hours in a row, perhaps this is due to their assumption that tiredness is inherent in the early stages of singing lessons. Singers need to produce precise notes and make specific vocal adjustments not leading to vocal load⁽¹⁹⁾. In addition, many singers perform other vocal activities, which, added to singing, may contribute to their vocal exhaustion⁽¹⁹⁾ and should be properly evaluated. It is believed that the singing teacher considers natural the presence of tiredness of voice after talking for a few hours. Nevertheless, it is known that vocal tiredness complaint is commonly related to vocal load, which may be due to vocal abuse and misuse due to the lack of knowledge of vocal health and the lack of appropriate adjustments when speaking or singing, or even due to the lack of resistance to the vocal demand⁽²⁰⁾. In this sense, the singing teacher also seems

to be unaware of the speech language pathologist therapy with singer's in order to provide him with better support for his vocal demand; even though this is an extremely important training performed by the speech language pathologist and that guarantees a good vocal quality for a long period of time preventing vocal disorders due to vocal misuse⁽²¹⁾. Therefore, the singing teacher must be educated by the speech language pathologist in order to do this referral. The combined work of the singing teachers and the speech language pathologists could bring many benefits for the singers, especially regarding vocal care and vocal resistance⁽²²⁾; two aspects directly related to vocal load and vocal tiredness complaints. In addition to these benefits provided to the singers, when professionals with different backgrounds, health and vocal pedagogy, work together, this work will also benefits the professionals who will become more aware of their own field of work and the field of work of other professionals; thus, promoting interdisciplinarity. Considering that this interdisciplinarity is complementary, it would better meet the singers specific demands, thus performing an adequate and complete preparation of this popular singer, in accordance to his professional demand and vocal needs.

The importance of interdisciplinarity between singing teachers and speech language pathologists has been reported in the literature^(13,22). However, the combined practice of these both professionals has to be better understood from a theoretical point of view, in other words, from the professional training, and only next be guided by the professional practice⁽²²⁾. In this sense, the outcomes of the present study seem to indicate that singing teachers have little knowledge of the speech language pathologist work with popular singing students.

Usually, singers first seek to a singing teacher advice regarding his vocal complaint, rather than seeking to a health professional⁽⁹⁾. Most singing teachers did not know that hoarseness complaints for more than two weeks may be a sign of vocal tumor (Table 1). This data is important, since the focus of these professionals is often specific vocal techniques and not complaints of chronic hoarseness as a risk to their student health. Although complaints in the singing voice may bring immediate professional harm, complaint of a hoarse voice should receive attention from the singing teacher, especially if it is long standing. In most cases, the hoarse voice complaint is due to a benign alteration, however, when it is present for several days, proper assessment must be performed in order to verify if this is a vocal style used by the singer or if it represents an important vocal risk factor. In addition, negative habits, such as smoking and alcoholism⁽⁵⁾, are frequent in popular singers and they increase the risk of health impairment in this population. In such cases, early diagnosis and treatment are essential for the patient⁽²³⁾. Such data alert for the attention that popular singing teachers must have regarding complaints of vocal alterations, such as chronic hoarseness, and that such complaint needs to be referred properly.

Although many popular singing teachers have a diverse musical background⁽¹⁵⁾, it is known that there is no standardized education opportunities in vocal pedagogy, which makes topics related to vocal health and rehabilitation not widely

known once vocal pedagogy focus on the artistic aspect⁽¹³⁾. The literature reports the need to adapt the vocal pedagogy training by providing knowledge regarding interdisciplinarity between the singing teacher and speech language pathologist; this includes current review on training opportunities related to vocal rehabilitation of the singing voice for the speech language pathologist, performers and vocal pedagogues⁽¹³⁾.

Considering the ten questions in the questionnaire of the present study, nine of them were related to factors that led the singing teachers to refer their students to the speech language pathologist. Of these nine, six showed no difference in the proportion of singing teachers who considered and did not consider the complaint as a factor that would lead them to refer their students to the speech language pathologist. Although no difference was observed, this data is relevant, since all these complaints are indicative of vocal risk due to overload or due to the presence of dysphonia. These data is in accordance with previous data and shows the singing teachers lack of information regarding the speech language pathologist work with singers⁽⁹⁾.

The literature brings several factors to explain the singing teachers lack of knowledge and information of vocal health. One factor that must be highlighted is the curriculum of their training courses that are essentially musical; the lack of financial resources and time availability makes it unable to include other types of vocal training⁽⁹⁾. Considering that singers usually have similar complaints⁽¹⁹⁾, it is believed that if the singing teachers had more knowledge of vocal health they would better understand each vocal complaint and would be able to identify its meaning to justify the referral to the speech language pathologist.

The age (Table 2) and time of professional experience as a singing teacher (Table 2) did not influence the referral to a speech language pathologist. The data indicate that the main factor that seems to influence the singing teachers lack of referral of their students to the speech language pathologist is lack of knowledge of vocal health and not knowing the speech language pathologist works with the singing voice. As mentioned before, this lack of knowledge seems to be related to the singing teachers curriculum that emphasizes on artistic perspectives and has no standardized course certification and curriculum criteria regarding vocal health, vocal science and clinical/medical applications in vocal pedagogy⁽¹³⁾, which are requirements for professional performance^(9,13).

The literature review found no studies that analyzed the reasons why singing teachers seek for the speech language pathologist assistance. The benefits of the interdisciplinarity between speech language pathologists and singing teachers for those who use the singing voice are known nationally and internationally⁽²²⁾. Nevertheless, it deserves greater efforts from singing teachers and speech language pathologists aiming to increase the information exchange and knowledge of both professionals work, in order to provide better vocal outcomes for the target population, that is, the popular singers.

CONCLUSION

The present study showed that most of the popular singing teachers seek for speech language pathologist assistance especially in the presence of vocal complaint difficulties in the articulation of speech sounds. Other factors that might compromise the singers health and longevity of their career are underestimated.

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Appendix A. Vocal knowledge questionnaire for singing teachers

Questionnaire

IDENTIFICATION DATA

NAME: _____

AGE: _____

PROFESSION: _____

NAME OF INSTITUTION YOU WORK: _____

1- Do you usually refer your student to a speech language pathologist if he has difficulty in his high notes?

Yes No

2- Do you usually refer your student to a speech language pathologist if he has any breathing difficulties?

Yes No

3- Do you usually refer your student to a speech language pathologist if he has the complaint of a hoarse voice?

Yes No

4- Do you usually refer your student to a speech language pathologist if he has difficulties in the articulation of speech sounds?

Yes No

5- Do you usually refer your student to a speech language pathologist if he has the complaint of lack of vocal projection?

Yes No

6- Do you usually refer your student to a speech language pathologist if he has complaint of reflux?

Yes No

7- Do you usually refer your student to a speech language pathologist if he has complaint of tiredness when talking for a few hours in a row?

Yes No

8- Do you usually refer your student to a speech language pathologist if he cannot sing with increase vocal loudness?

Yes No

9- Do you usually refer your student to a speech language pathologist if he reports frequent clear throat, dry throat or any other discomfort in his throat?

Yes No

10- Did you know that a hoarse voice for more than 15 days may be a sign of vocal tumor?

Yes No