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Brief Communication

Comunicação Breve

Reduced versions of dysphonia coping protocols

Versões reduzidas para protocolo clínico de enfrentamento das disfonias

Gisele Oliveira[1]
Fabiana Zambon[1,2]
Thays Vaiano[1,2]
Flavia Costa[1,2]
Mara Behlau[1,2]

ABSTRACT

The purpose of the study is to explore two reduced versions of the PEED-27 (Brazilian VDCQ) and compare them to the original version. It was performed a retrospective analysis of PEED-27 questionnaires of 100 individuals with vocal disorder, 37 men and 63 women, mean age of 43.7 in order to compare reduced versions of the instrument. The analysis showed that the three instruments have high level of correlation, thus their results are comparable (PEED 27 x 15, r=+0.910, p< 0.001; PEED 27 x 10, r=+0.873, p<0.001 and PEED 15 x 10, r=+0.924, p< 0.001). The PEED-10 and PEED-15 are reduced and adapted versions to the Brazilian Portuguese language. They evaluate strategies used by dysphonic individuals to cope with their voice problem. The clinician must decide which version to use based on the available time and on the need of more detailed information.

Keywords

Dysphonia
Coping, Voice Disorders/Diagnosis
Questionnaires

RESUMO

O objetivo deste estudo é explorar duas versões reduzidas do Protocolo de Estratégias de Enfrentamento na Disfonia - PEED-27 e verificar suas correspondências com o protocolo original. Foi realizada uma análise retrospectiva de questionários PEED-27 de 100 indivíduos com queixa vocal 37 homens e 63 mulheres, com idade média de 43,7 anos, para comparação com versões reduzidas do instrumento. A análise dos três instrumentos mostrou que eles apresentam níveis de correlação elevados entre si e, portanto, seus resultados são comparáveis (PEED 27 x 15, r=+0,910, p< 0,001; PEED 27 x 10, r=+0,873, p<0,001; PEED 15 x 10, r=+0,924, p< 0,001). O PEED-10 e PEED-15 são as versões reduzidas e adaptadas para o português brasileiro e mostraram avaliar as estratégias de enfrentamento utilizadas por indivíduos disfônicos para enfrentar seu problema de voz. O clínico deve definir qual versão prefere usar, de acordo com o tempo disponível e seu interesse em maior ou menor detalhamento.

Descritores

Disfonia
Enfrentamento, Distúrbios da Voz/Diagnóstico
Questionários

Study carried out at the Departamento de Fonoaudiologia, Universidade Federal de São Paulo – UNIFESP - São Paulo (SP), Brazil.

[1] Centro de Estudos da Voz – CEV - São Paulo (SP), Brazil.

[2] Universidade Federal de São Paulo – UNIFESP - São Paulo (SP), Brazil.

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Correspondence address:
Thays Vaiano
Centro de Estudos da Voz – CEV
Rua Machado Bittencourt, 361,
10º andar, São Paulo (SP), Brazil,
CEP: 04044-001.
E-mail: tvaiano@uol.com.br

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INTRODUCTION

The way in which patients cope with their health problems produce consequences that influence their condition evolution and the result of their treatment[1-3]. Evidences show that there is a relation between coping strategies and treatment results, given that the strategies targeted at emotion control usually are associated to a worse treatment effect[1,2]. It is by means of coping strategies that the individual produces adjustments to promote his well-being balance. The recognition of the problems faced by the patient and the selection of the best strategies to deal with the disease and its consequence, can contribute to the development of self-regulating abilities[1,2].

Individuals with vocal disorder present difficulties to communicate and consequently can present a reduction in their well-being and life quality[3,4]. Adaptation adjustments are necessary in order to deal with vocal disorder and control the stress produced by it.

Epstein et al.[3] produced a protocol that evaluates the coping strategies in vocal disorder (*Voice Disability Coping Questionnaire-VDCQ*), which is the only assessment tool for dysphonia coping. This instrument has 27 items and, despite having shown to be useful at the understanding on how an individual deals with dysphonia, it is too long for clinic application. For being a complementary self-assessment protocol at the diagnosis process of the voice patient, it should be a fast and simple instrument to be managed. Therefore, it is important that protocols in reduced versions be studied for vocal clinic use. For this reason, the two reduced versions of the Dysphonia Coping Strategy Protocol PEED (PEED-10 and PEED-15) are presented and compared to the original version (PEED-27) in this study. PEED-15 was created and presented in a previous study[5]. This protocol contains 15 questions and 4 subscales: Support Search, Get off the chest, Defensive Acceptance and Minimization. PEED-10 will be presented in this brief communication.

Surveys were recently performed in Brazil with general dysphonic individuals[5,6] and also with teachers with and without voice problem[7], by using the Brazilian version of this protocol, called Dysphonia Coping Protocol – PEED. The objective of the present study is to explore the possibility of using the two reduced versions of the instrument: PEED-10 and PEED-15.

METHODS

This research is a retrospective study that used a questionnaire data bank of 100 patients with vocal disorder, 37 men and 63 women, mean age of 43.7 years.

Dysphonia Coping Strategies Protocol – PEED was translated and culturally adapted to the Brazilian Portuguese from VDCQ-27 (Voice Disability Coping Questionnaire[2]) according to the international rules of Scientific Advisory Committee of Medical Outcome Trust[6].

The reduced protocols (PEED 10 and 15 – Annexes A and B) were derived from the data bank results of Oliveira et al.[6] study. Only PEED-27 questionnaires of individuals with vocal complaint (N=87) were analyzed[5]. The 27 items were submitted to two sets of Main Components Analyses with oblique rotation. The factor analysis had as objective to investigate the protocol component structure in this sample. Data were initially analyzed by Bartlett Sphericity Test. The Kaiser-Meyer-Olkin Measurement of Adjustment Sample was performed to evaluate which individual items should remain in the analysis. Aiming at maximizing Kaiser-Meyer-Olkin test, the sample measurement of adjustment of the individual items was analyzed at the diagonal correlation matrix of anti-image. Items with sample measurement of adjustment lower than 0.600 were removed from the analysis and a new matrix was generated. This process was repeated until all the items presented a measurement of adjustment higher than 0.600, so the remaining items were submitted to Main Components Analysis. The *scree plot*, that is a graphic procedure used to determine the number of the main components for the analysis, was used to define the number of extracted factors. Besides, it was assured that the sample variance percentage was higher than 5% and the own values of each factor were higher than 1.00.

For the elaboration of the first reduced version of the protocol, were kept in the final matrix only the items with load above 0.600. For the second version of the protocol, were kept the items with factorial load above 0.500. In both analyses, in case the factorial solution produced factors that seemed to contain many items of the same coping, the Main Component Analysis was performed again for such items to determine a lower number of factors.

After this process, the PEED-10 (Annex A) and PEED 15 protocols were produced. PEED-10 presented 10 items and 4 sub scales: information search, redefinition, self-control and avoidance/passivity. PEED-15 (Annex B) contains 15 items and 4 subscales too: Support search, Get off the chest, Defensive Acceptance and Minimization

For the present study, the results of the items of PEED-27, PEED-15 and PEED-10 were compared to check their correlations, similarities and differences. For the correlation analysis, it was used Spearman Correlation test. For the similarities and differences analysis were used Friedman and Wilcoxon Signaled Post tests, adjusted by Bonferroni Correction, to verify which instrument it differentiates from the others, when compared side by side.

RESULTS

Spearman correlation test (Table 1) showed that the three protocols present a high level of correlation (PEED 27 x 15, $r=+0.910$, $p< 0.001$; PEED 27 x 10, $r=+0.873$, $p<0.001$; PEED 15 x 10, $r=+0.924$, $p< 0.001$).

Friedman test showed that the three protocols differed themselves ($p=0.008$), therefore they were compared in pairs for the confirmation of the differences found. Wilcoxon Signaled Post test, adjusted by Bonferroni Correction (Table 1), showed that PEED-10 is more similar to PEED-27 ($p=0.310$) than to PEED-15 ($p<0.001$).

Table 1. Analysis of the correlation and in pairs among the three instruments: PEED-27, PEED-15 and PEED-10

Variables pair	Spearman Correlation		Wilcoxon Test
	Coefficient (r)	Meaning (p)	Meaning (p)
PEED 27 x PEED 15	+0.910	< 0.001	< 0.001
PEED 27 x PEED 10	+0.873	< 0.001	0.310
PEED 15 x PEED 10	+0.924	< 0.001	0.014

(alpha of Bonferroni = 0.017)

DISCUSSION

Both protocols represent reduced versions, simple and fast to be applied, that offer results comparable to the original version of PEED-27. PEED-15 is a more comprehensive version, because it includes the ten PEED-10 questions besides the following items: "It is easier to deal with my vocal disorder when the others are kind"; "To talk with friends and family about my vocal disorder helps me"; "I think it is easier to deal with my vocal disorder trying to understand it better; "I keep to myself the frustrations caused by my voice and a few friends know how I feel"; and "I ask for help regarding my vocal disorder".

PEED-10 presented results more similar to PEED-27, however the results of the comparison between PEED-15 and PEED-27 cannot be considered inadequate and they are just below the results of the comparison between PEED-10 and PEED-27. In clinical practice, the advantage of using PEED-15 would be to obtain a little more information about the strategy types used by the individual, once the protocol contains 5 additional questions if compared to PEED-10.

Studies comparing the two versions in relation to the original protocol are being conducted to identify any specification that can contribute to the understanding of the problem and verifying the specific intervention to help the patient to obtain good efficiency at vocal therapy.

CONCLUSIONS

PEED-10 and PEED-15 are the reduced versions, adapted to the Brazilian Portuguese language and evaluated the coping strategies used by dysphonic individuals to cope with their vocal disorder. PEED-10 produced results more similar to PEED-27. The clinician should define which version he prefers to use, according to the available time.

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Author contributions

GO and MB developed the project and the design of the research, participated in the results analyses and in the text elaboration; TV, FC and FZ participated in the data collection and in the results analyses.

Annex A. Dysphonia Coping Strategy Protocol -10 – PEED-10

We are interested in knowing how people react when their voice conditions are abnormal or when they have a vocal disorder. There are several ways to try to deal with these situations and circumstances. In the present questionnaire, we request that you indicate what you do and how you feel. Obviously, different circumstances produce different answers in a certain way, but think about what you would usually do when your voice is not normal. There are six possibilities of answers presented, circle the number that corresponds to how much you use the sentence answer.

		Never	Hardly ever	Some times	Frequently	Almost always	Always
1	I try to find all available information about my vocal disorder.	**0**	**1**	**2**	**3**	**4**	**5**
2	I think it is easier to cope with my vocal disorder by talking about how I feel	**0**	**1**	**2**	**3**	**4**	**5**
3	I think it is easier to cope with my vocal disorder by avoiding thinking about it	**0**	**1**	**2**	**3**	**4**	**5**
4	I keep to myself any concern about my vocal disorder.	**0**	**1**	**2**	**3**	**4**	**5**
5	I think there is not much I can do regarding my vocal disorder	**0**	**1**	**2**	**3**	**4**	**5**
8	Having a vocal disorder helped me to understand some important facts about my life	**0**	**1**	**2**	**3**	**4**	**5**
9	I think it is easier to cope with my vocal disorder when I ask questions to the doctor	**0**	**1**	**2**	**3**	**4**	**5**
8	I think it is easier to cope with my vocal disorder by avoiding being with other people	**0**	**1**	**2**	**3**	**4**	**5**
9	I try to accept my vocal disorder because there is nothing to be done	**0**	**1**	**2**	**3**	**4**	**5**
10	I try to convince myself that my vocal disorder does not harm me so much	**0**	**1**	**2**	**3**	**4**	**5**

Annex B. Dysphonia Coping Strategies Protocol -15 – PEED-15

We are interested in knowing how people react when their voice conditions are abnormal or when they have a vocal disorder. There are several ways to try to deal with these situations and circumstances. In the present questionnaire, we request that you indicate what you do and how you feel. Obviously, different circumstances produce different answers in a certain way, but think about what you would usually do when your voice is not normal. There are six possibilities of answers presented, circle the number which corresponds to how much you use the sentence answer.

		Never	Hardly ever	Some times	Frequently	Almost always	Always
1-SS	It is easier to cope with my vocal disorder when other people are kind	**0**	**1**	**2**	**3**	**4**	**5**
4-SS	I try to find all available information about my vocal disorder.	**0**	**1**	**2**	**3**	**4**	**5**
5-D	I think it is easier to cope with my vocal disorder by talking about how I feel	**0**	**1**	**2**	**3**	**4**	**5**
6-M	I think it is easier to cope with my vocal disorder by avoiding thinking about it	**0**	**1**	**2**	**3**	**4**	**5**
7-D	To talk to friends and family about my vocal disorder helps me	**0**	**1**	**2**	**3**	**4**	**5**
8-SS	I think it is easier to cope with my vocal disorder trying to understand it better	**0**	**1**	**2**	**3**	**4**	**5**
9-M	I keep to myself any concern about my vocal disorder.	**0**	**1**	**2**	**3**	**4**	**5**
10-AD	I think there is not much I can do regarding my vocal disorder	**0**	**1**	**2**	**3**	**4**	**5**
12-V	Having a vocal disorder helped me to understand some important facts about my life	**0**	**1**	**2**	**3**	**4**	**5**
13-SS	I think it is easier to cope with my vocal disorder when I ask questions to the doctor	**0**	**1**	**2**	**3**	**4**	**5**
14-AD	I think it is easier to cope with my vocal disorder by avoiding being with other people	**0**	**1**	**2**	**3**	**4**	**5**
17-AD	I try to accept my vocal disorder because there is nothing to be done	**0**	**1**	**2**	**3**	**4**	**5**
19-AD	I keep to myself the frustrations caused by my vocal disorder and a few friends know how I feel	**0**	**1**	**2**	**3**	**4**	**5**
20-M	I try to convince myself that my vocal disorder does not harm me so much	**0**	**1**	**2**	**3**	**4**	**5**
25-SS	I ask other people help because of my vocal disorder	**0**	**1**	**2**	**3**	**4**	**5**