

Gialille de Sá Lúcio¹
Tatiana Vargas de Castro Perilo¹
Laélia Cristina Caseiro Vicente¹
Amélia Augusta de Lima Friche¹

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Correspondence address:

Tatiana Vargas de Castro Perilo
Avenida Ressaca, 172/201, Coração
Eucarístico, Belo Horizonte (MG), Brasil,
CEP: 30535-540.
E-mail: tatiana_vargas@hotmail.com

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The impact of speech disorders quality of life: a questionnaire proposal

Impacto dos distúrbios da fala na qualidade de vida: proposta de questionário

ABSTRACT

Purpose: To develop a questionnaire to analyze the impact of speech disorders on quality of life and verify its reliability. **Methods:** A literature review on instruments that assess the quality-of-life was performed, particularly those concerning communication disorders. The questionnaire was designed with 18 closed questions: one related to speech impairments, another about quality-of-life, and 16 questions covering the physical, emotional, and social domains. The questionnaire was applied to a population of 24 individuals of both sexes, aged between 12 and 50 years; 12 patients (case group) had phonetic speech disorders, and 12 (control group) had no impairment in oral communication. They were paired according to age and sex. To analyze the reliability of the instrument, the internal consistency of the items was assessed through Cronbach's Alpha coefficient. **Results:** The internal consistency of the 16 questions concerning the domains was $\alpha=0.93$; for the physical domain, $\alpha=0.71$; for the emotional domain, $\alpha=0.77$; and for the social domain, $\alpha=0.85$. **Conclusion:** The questionnaire showed good reliability in identifying the impact of speech disorders on the individuals' quality of life.

RESUMO

Objetivo: Elaborar um questionário para analisar o impacto dos distúrbios da fala na qualidade de vida e verificar a sua confiabilidade. **Métodos:** Foi realizada revisão de literatura sobre instrumentos que avaliavam a qualidade de vida, sobretudo nas alterações de comunicação. Foi elaborado questionário com 18 questões fechadas, sendo uma relativa ao comprometimento de fala, outra à qualidade de vida e as demais 16 questões abrangeram os domínios físico, emocional e social. O questionário foi aplicado em 24 sujeitos de ambos os gêneros com idades entre 12 e 50 anos, sendo 12 indivíduos (grupo caso) com distúrbio de fala de origem fonética e 12 (grupo controle) sem comprometimento de comunicação oral, pareados por idade e gênero. Para análise da confiabilidade do questionário, foi analisada a consistência interna dos itens que o compõem por meio do coeficiente Alfa de Cronbach. **Resultados:** A consistência interna das 16 questões referentes aos domínios foi de $\alpha=0,93$; para o domínio físico $\alpha=0,71$, para o emocional $\alpha=0,77$ e para o social $\alpha=0,85$. **Conclusão:** O questionário apresentou boa confiabilidade para a identificação do impacto do distúrbio da fala na qualidade de vida dos indivíduos.

Study carried out at the Speech-Language Pathology and Audiology Ambulatory of Universidade Federal de Minas Gerais – UFMG – Belo Horizonte (MG), Brazil.

(1) Universidade Federal de Minas Gerais – UFMG – Belo Horizonte (MG), Brazil.

Conflict of interests: nothing to declare.

INTRODUCTION

Speech disorders can result in difficulties in the communication process, lead to social isolation, and affect quality of life⁽¹⁻³⁾. The World Health Organization defines quality of life (QOL) as “an individual’s perception about his/her position in life [...] and in relation to his/her objectives, expectations, standards, and preoccupations”⁽⁴⁾. This concept is considered an important indicator in Public Health. QOL questionnaires concerning voice⁽⁵⁾, stuttering^(6,7), and swallowing⁽⁸⁾ have been used in the clinical practice of speech-language pathology and audiology. Currently, however, there is no instrument to measure the impact of speech disorders on QOL. Such initiative could help speech-language pathologists and audiologists to shape interventions and adjust therapeutic strategies to the patients’ needs. Thus, the aim of this study was to elaborate a questionnaire to investigate the impact of speech disorders on QOL and to verify its reliability.

METHODS

This is a transversal study conducted at the Speech-Language Pathology and Audiology Ambulatory of Universidade Federal de Minas Gerais (UFMG). It was approved by UFMG’s Ethics Committee under report number 404/09, and carried out in two stages: elaboration of the questionnaire to assess the impact of speech disorders on QOL, and analysis of the reliability of this instrument.

The elaboration of the questionnaire was based on scientific papers that describe protocols used to assess QOL in different situations, published from 1999 to 2009^(4,5,7-9).

In order to analyze the instrument’s reliability, the questionnaire was applied in a pilot format to 24 individuals, 12 in the case group and 12 in the control group, aged from 12 to 50 years, paired according to sex and age. The case group was composed of individuals with phonetic speech alterations, and the control group was formed by individuals without any compromise in oral communication, attested by means of a simplified speech assessment. We excluded individuals with cognitive, neurological, and vocal deviation, as well as those with alterations in oral language and fluency, auditory impairment, and/or with speech disorders on the last stages of treatment. The control group was composed of individuals who accompanied patients assisted in the same ambulatory. This latter group was instructed to answer the questions according to their perception of their own speech.

The etiologic factors and speech disorders presented by the participants of the case group were (1) Cleft lip and palate (all had undergone surgery) and compensatory articulatory disorders (such as glottal stop); (2) Musculoskeletal alterations and frontal or lateral lisp; and (3) Partial glossectomy and articulatory distortions. We opted for including different etiologic speech disorder factors in the sample in order to verify the adequacy of the questionnaire in relation to a wide gamma of causes. All participants signed the Informed Consent.

The answers to questions 2–17 in the questionnaire were graded on a Likert scale: 3 points for the option “Always”, 2 points for “Sometimes”, 1 point for “Rarely”, and 0 point for “Never”. The option “I do not know” was not considered in the analysis, and, therefore, it did not influence the score. For the comparison between both groups, the analysis was performed considering the percentage of points in relation to the maximum possible score for each individual per domain, and the total score. The analysis of internal consistency was conducted considering each domain and the total score using Cronbach’s coefficient. We considered the reliability as poor when $\alpha \leq 0.5$, acceptable between 0.6 and 0.7, and good when $\alpha \geq 0.8$ ⁽¹⁰⁾. In the analysis, we excluded the questions whose removal from a specific domain increased Cronbach’s Alpha value and, consequently, the internal consistency of the questionnaire.

Questions 1 and 18 were analyzed based on the frequency of the answers, with the purpose of identifying an individual’s self-perception of his/her speech impairment and QOL.

RESULTS

The questionnaire devised was composed of 18 closed questions, two about self-perception of speech impairment and general QOL, and 16 about self-perception of the physical (questions 2–5), emotional (6–11), and social (12–17) domains (Appendix 1).

The analysis of the internal consistence of the questionnaire is presented in Table 1.

Regarding the individuals’ self-perception of speech impairments (question 1), six participants (50%) in the case group replied “Always”, two (17%) “Sometimes”, two “Rarely” or “Never”, and two answered “I do not know”. In the control group, 10 participants replied “Rarely” or “Never” and two (17%) opted for “Sometimes”. Concerning QOL (question 18), 10 individuals (84%) in the case group considered it “Good”, one (8%) “Excellent”, and one (8%) “Bad”.

Table 1. Analysis of the internal consistency of the Questionnaire Impact of Speech Disorders on Quality of Life

	Questions analyzed	Number of questions	Cronbach's Alpha		
			Case group (n=12)	Control group (n=12)	Total (n=24)
Physical domain	2–5	4	0.71	0.72	0.71
Emotional domain*	6–10	6	0.83	0.70	0.77
Social domain	12–17	6	0.77**	0.96	0.85
Total score	2–17	16	0.91	0.95	0.93

*Item 11 was deleted with the purpose of increasing internal consistency – regarding that question: $\alpha=0.78$ (case group), $\alpha=0.67$ (control group) and $\alpha=0.74$ (both groups);

**Item 16 was deleted with the purpose of increasing internal consistency – regarding that question: $\alpha=0.70$ (case group), $\alpha=0.95$ (control group), and $\alpha=0.78$ (both groups).

In the control group, eight (67%) considered it “Good”, three (25%) “Excellent”, and one (8%) “Bad”.

DISCUSSION

In similarity to other studies in the literature^(9,11,12), the instrument was first applied to a pilot population and presented good reliability in each domain and in the questionnaire as a whole.

In regard to the domains, the internal consistency varied from acceptable ($\alpha=0.71$ – physical domain in the case group) to good ($\alpha=0.96$ – social domain in the control group). The exclusion of question 11 from the physical domain and question 16 from the social domain increased their internal consistency, and, therefore, should be investigated further with a larger sample. Concerning the total score of the questionnaire, the internal consistency was good both in relation to the case group ($\alpha=0.91$) and the control group ($\alpha=0.95$). Self-perception of speech impairments occurred predominantly in the case group, but apparently without an impact on QOL in both groups. Future studies on this topic are necessary, given that, to our knowledge, this is the first (Brazilian) study of this type. Studies conducted with larger case groups and satisfactory statistical power will enable the assessment of QOL in relation to speech disorders in a more precise manner.

Some limitations must be considered in future research, such as the size of the sample, which needs to be amplified, and the selection of case groups, so as to encompass other speech disorders and age ranges. Thus, new analyses must be employed on the validation of this questionnaire in future studies.

Nevertheless, the high Cronbach’s Alpha values found for the total score of the questionnaire in both groups indicate that the instrument in question seems to be reliable in assessing the QOL of individuals with speech disorders.

CONCLUSION

We devised a protocol to assess the QOL of individuals with speech disorders, composed of 18 questions concerning the physical, emotional, and social domains. The questionnaire

proved to be an instrument of good reliability both in relation to the domains and to the questionnaire as a whole.

**GSL was responsible for the project and study outline, as well as data collection and tabulation; TVCP participated in data tabulation and analysis, and manuscript elaboration; LCCV collaborated with data analysis, and supervised data collection and all stages of the study; AALF was responsible for data analysis, and general supervision of all stages of manuscript elaboration and writing.*

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Appendix 1. Questionnaire Impact of Speech Disorders on Quality of Life

Impacto dos Distúrbios da Fala na Qualidade de Vida

Nome: _____ DN: _____ / _____ / _____

Hipótese diagnóstica fonoaudiológica: _____

Com que frequência as situações abaixo interferem na sua qualidade de vida?

- 1) Você acha que tem alguma alteração na fala?
Sempre Algumas vezes Raramente Nunca Não sei
- 2) Com que frequência sua família e seus amigos NÃO compreendem o que você fala?
Sempre Algumas vezes Raramente Nunca Não sei
- 3) Com que frequência as outras pessoas NÃO entendem o que você fala?
Sempre Algumas vezes Raramente Nunca Não sei
- 4) Você sente dificuldade ao falar no telefone?
Sempre Algumas vezes Raramente Nunca Não sei
- 5) Você tem que repetir o que fala para ser bem compreendido?
Sempre Algumas vezes Raramente Nunca Não sei
- 6) Sua fala afeta o seu humor?
Sempre Algumas vezes Raramente Nunca Não sei
- 7) Seu modo de falar te deixa ansioso(a)?
Sempre Algumas vezes Raramente Nunca Não sei
- 8) Sua fala te deixa deprimido(a)?
Sempre Algumas vezes Raramente Nunca Não sei
- 9) Você sente incômodo ou vergonha pelo seu modo de falar?
Sempre Algumas vezes Raramente Nunca Não sei
- 10) Você está insatisfeito com seu modo de falar?
Sempre Algumas vezes Raramente Nunca Não sei
- 11) Você fica irritado quando as pessoas pedem pra você repetir o que falou?
Sempre Algumas vezes Raramente Nunca Não sei
- 12) Você evita sair de casa por causa de sua fala?
Sempre Algumas vezes Raramente Nunca Não sei
- 13) Sua fala altera de alguma forma seu relacionamento com sua família?
Sempre Algumas vezes Raramente Nunca Não sei
- 14) Sua fala altera seu relacionamento com os amigos?
Sempre Algumas vezes Raramente Nunca Não sei
- 15) Sua fala altera seu relacionamento com as pessoas desconhecidas?
Sempre Algumas vezes Raramente Nunca Não sei
- 16) Você tem dificuldade no trabalho/escola por causa do seu modo de falar?
Sempre Algumas vezes Raramente Nunca Não sei
- 17) Você se sente excluído nas conversas por causa de sua fala?
Sempre Algumas vezes Raramente Nunca Não sei
- 18) Pensando na sua fala no último mês, como você classifica a sua qualidade de vida nos dias de hoje?
Excelente Boa Ruim Péssima