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**Scales of degree of facial paralysis:
analysis of agreement^{☆,☆☆}**



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KEYWORDS

Facial paralysis;
Evaluation;
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Abstract

Introduction: It has become common to use scales to measure the degree of involvement of facial paralysis in phonoaudiological clinics.

Objective: To analyze the inter- and intra-rater agreement of the scales of degree of facial paralysis and to elicit point of view of the appraisers regarding their use.

Methods: Cross-sectional observational clinical study of the Chevalier and House & Brackmann scales performed by five speech therapists with clinical experience, who analyzed the facial expression of 30 adult subjects with impaired facial movements two times, with a one week interval between evaluations. The kappa analysis was employed.

Results: There was excellent inter-rater agreement for both scales ($\kappa > 0.80$), and on the Chevalier scale a substantial intra-rater agreement in the first assessment ($\kappa = 0.792$) and an excellent agreement in the second assessment ($\kappa = 0.928$). The House & Brackmann scale showed excellent agreement at both assessments ($\kappa = 0.850$ and 0.857). As for the appraisers' point of view, one appraiser thought prior training is necessary for the Chevalier scale and, four appraisers felt that training is important for the House & Brackmann scale.

Conclusion: Both scales have good inter- and intra-rater agreement and most of the appraisers agree on the ease and relevance of the application of these scales.

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PALAVRAS-CHAVE

Paralisia facial;
Avaliação;
Escalas;
Classificação;
Fonoaudiologia

Escalas de grau da paralisia facial: análise de concordância**Resumo**

Introdução: A utilização das escalas para mensurar o grau de comprometimento da paralisia facial tem se tornado rotina cada vez mais comum na clínica fonoaudiológica.

Objetivos: Analisar a concordância inter- e intra-avaliadores das escalas do grau de paralisia facial e a opinião dos avaliadores quanto à sua utilização.

Método: Estudo clínico observacional transversal das escalas de Chevalier e de House & Brackmann, realizado com cinco fonoaudiólogos com experiência clínica que analisaram a expressão facial de 30 indivíduos adultos com variação de comprometimento da mímica facial, por duas vezes, com intervalo de uma semana entre sessões. A análise de kappa foi empregada.

Resultados: Houve excelente concordância inter-avaliadores para as duas escalas ($\kappa > 0,80$) e na escala de Chevalier foi observada concordância substancial intra-avaliadores na 1ª avaliação ($\kappa = 0,792$) e excelente na 2ª avaliação ($\kappa = 0,928$). A escala de House & Brackmann apresentou excelente concordância nos dois momentos da avaliação ($\kappa = 0,850$ e $0,857$). Quanto à opinião dos avaliadores, na escala de Chevalier um dos profissionais acha necessário treinamento prévio; na escala de House & Brackmann, quatro profissionais acham importante haver o treinamento.

Conclusão: Ambas as escalas apresentam boa concordância inter- e intra-avaliadores e a maioria dos profissionais concorda quanto à facilidade e à relevância da aplicação destas escalas.

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Introduction

Facial palsy can arise from traumatic, iatrogenic, infectious, idiopathic, neoplastic, congenital, metabolic, or toxic origins. The degree of impairment is also quite variable.¹ The incidence of Bell's palsy (idiopathic) is estimated to be 20–30 cases per 100,000 people, with a slightly higher prevalence among women.² The degree of facial paralysis impairment reflects the number of affected axons; the greater the insult to the nerve, the greater the possibility of degeneration of the axonal fibers and of subsequent denervation of muscle fibers of the hemiface.³

The role of phonoaudiology for patients with facial paralysis has grown in recent years; this increase is also evident in scientific studies. Intervention for facial paralysis advocates the optimization of facial expressions and of the functions of chewing, swallowing, and communication.

People with facial paralysis commonly experience functional and psychosocial impairment. The face remains asymmetrical at rest and during motion.⁴ The mobility of the muscles of the mouth, essential for speech, expression, and also for nourishment, is altered, and because of this there is demand for speech therapy.⁵ Incomplete and synkinetic movements in the forehead, eyes, nose, and lips also may occur, as well as excessive tearing during activities such as chewing.^{6,7}

From the psychosocial aspect, nonverbal communication becomes compromised⁸; during speech, several processes are involved, and facial expression enhances and amplifies emotion, i.e., the expressiveness of the context to be transmitted.⁴ Patients with sequelae of facial paralysis of long duration generally relate communication problems, since they cannot convey their emotions through facial expression, and are prone to having their emotional state misinterpreted.¹ One study points to a variety of

psychosocial problems occurring as a result of facial paralysis, including depression, anxiety, rejection, and paranoia in patients.⁹

The needs to determine the prognosis for facial palsy and to plan treatment have led to the development of methods to quantify this problem clinically. Several subjective and objective methods have been proposed for this evaluation; the subjective methods are based on the presence or absence of certain pre-established facial movements,^{10,11} and include the House & Brackmann,¹² Yanagihara,¹³ and Chevalier¹⁴ scales, among others.

The pursuit of evidence-based practice has become essential in the therapeutic process. Thus, the use of scales to measure the degree of facial paralysis involvement has become increasingly common in the clinical phonoaudiological routine.

The agreement in judgments regarding the degree of facial paralysis based on these scales has been widely investigated. The scales depend on the interpretation of a professional; factors such as clinical experience with the disease and with the instrument influence the evaluation. The degree of reliability of a scale can be estimated by measuring the concordance between inter- and intra-rater results achieved in its application to the same patient.¹⁵ Thus, the aim of this study was to determine and compare the inter- and intra-rater agreement in the interpretation of the degree of peripheral facial paralysis impairment based on two functional scales, and to relate the appraisers' point of view on the use of these instruments.

Methods

This was a cross-sectional observational study approved by the Research Ethics Committee of the Federal University of Minas Gerais, under Opinion No. 406/08. For the conduction

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