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ORIGINAL ARTICLE

Benchmarks for the Dichotic Sentence Identification test in Brazilian Portuguese for ear and age☆,☆☆

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KEYWORDS
Hearing;
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Abstract
Introduction: Dichotic listening tests should be used in local languages and adapted for the population.
Objective: Standardize the Brazilian Portuguese version of the Dichotic Sentence Identification test in normal listeners, comparing the performance for age and ear.
Methods: This prospective study included 200 normal listeners divided into four groups according to age: 13–19 years (GI), 20–29 years (GII), 30–39 years (GIII), and 40–49 years (GIV). The Dichotic Sentence Identification was applied in four stages: training, binaural integration and directed sound from right and left.
Results: Better results for the right ear were observed in the stages of binaural integration in all assessed groups. There was a negative correlation between age and percentage of correct responses in both ears for free report and training. The worst performance in all stages of the test was observed for the age group 40–49 years old.
Conclusions: Reference values for the Brazilian Portuguese version of the Dichotic Sentence Identification test in normal listeners aged 13–49 years were established according to age, ear, and test stage; they should be used as benchmarks when evaluating individuals with these characteristics.
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PALAVRAS-CHAVE
Audição;
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Testes de discriminação da fala;
Validade dos testes;
Processamento espacial

Valores de referência para o teste de identificação de sentenças dicóticas em português brasileiro segundo orelha e idade

Resumo
Introdução: Os testes de escuta dicótica devem ser utilizados na língua nativa e adaptados para a população alvo.
Objetivo: Estabelecer critérios de referência para o teste DSI em indivíduos normouvintes segundo a orelha, faixa etária e etapa do teste.
Método: Estudo prospectivo transversal com 200 indivíduos normouvintes, separados em quatro grupos: 13 a 19 anos (GI), 20 a 29 anos (GII), 30 a 39 anos (GIII) e 40 a 49 anos (GIV). O teste DSI foi aplicado em quatro etapas: Treino, integração binaural, escuta direcionada direita e esquerda.
Resultados: Foram observados melhores resultados para a orelha direita nas etapas de integração binaural em todos os grupos avaliados. Houve correlação negativa entre a porcentagem de acertos e a idade, bilateralmente, para as etapas de treino e integração binaural. O pior desempenho, em todas as etapas do teste, foi observado para a faixa etária de 40 a 49 anos de idade.
Conclusões: Os valores de referência para a versão em português brasileiro do teste DSI em indivíduos normouvintes de 13 a 49 anos de idade foram estabelecidos segundo a idade, orelha e etapa do teste e devem ser utilizados como padrões de referência na avaliação dos indivíduos com essas características.
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Introduction

Auditory processing assessment targets the understanding of the auditory function and its association with communication and is performed through special behavioral auditory tests aimed at assessing the individual's auditory performance in similar situations to those experienced in daily life.

Dichotic listening tests are among the types of stimulation used for auditory capacity assessment. In dichotic listening tests with linguistic materials, most individuals tend to display better performance for the information offered to the right ear compared to the left ear.[1]

Among the dichotic listening tests utilized in Brazil is the Dichotic Sentence Identification (DSI) test, which was originally created in English.[2]

The Brazilian Portuguese version of the DSI[3] has six parts: calibration, training. binaural integration, directed report on the right, directed report on the left ear, and training. This test allows assessing the auditory capacity of figure-background for verbal sounds (identifying speech sounds in the presence of other speech sounds), with verbal sound recognition in dichotic listening acting as the underlying auditory physiological mechanism.[3] After the tool development for auditory processing assessment, the authors[4] studied the incidence of errors in the sentences given in the DSI in Brazilian Portuguese according to gender. In the study, a higher incidence of errors was observed when the following sentence was presented: ''That ignores the primary purpose is to win,'' regardless of the test presentation stage.

The authors hypothesized that the high incidence of errors in this sentence could be related to a difficulty in visual processing or memory, depending on the strategy used by the individual to indicate the sentence that was heard.[4]

Several factors may influence the individuals' results in behavioral hearing tests; among these factors is age. Studies have shown that with increasing age there may be a decline in the production and comprehension of syntactically complex sentences and changes may also arise in the working memory operation patterns.[5]

It is known that to achieve the diagnosis of auditory processing disorder, it is necessary to use tools that have been validated for the population to be analyzed after cultural adaptation, controlling all factors that are extrinsic to the assessment.[3] The adequate use of auditory processing tests complements peripheral hearing evaluation[6] and must also be performed when assessing individuals with hearing loss, whether or not they are users of individual hearing aids. Therefore, the correct interpretation of results is vital for diagnostic purposes and to assist in the rehabilitation process.[6–8]

Considering the use of standardized tests to assess auditory processing and the effect of age and ear on the dichotic listening tasks, this study aims to establish reference values for the Brazilian Portuguese version of the DSI in normal listeners aged 13–49 years old, according to the ear, age range, and test stage.

Methods

The study was reviewed and approved by the Research Ethics Committee under No. 0322/07. The subjects were invited

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