

A NON CONVENTIONAL USE OF SURVIVAL CURVES TO IDENTIFY FACTORS FOR GUSTATORY ALTERATIONS IN PATIENTS WITH CHRONIC OTITIS MEDIA

Basilio de Bragança PEREIRA^{1,2}
Emília Matos do NASCIMENTO²
Felippe FELIX¹
Shiro TOMITA¹

- **ABSTRACT:** *We present an application of discrete survival-analysis and Poisson regression to identify factors that cause gustatory alterations in patients with chronic otitis media. A case study related to a prospective study to identify factors of gustatory alterations due to chorda tympani nerve involvement in patients with chronic otitis media without prior surgery was presented. The Log-rank, Tarone-Ware, and Peto-Prentice tests pointed out a significant association between survival curves of the healthy side and the affected side of the face of patients with chronic otitis media related to gustatory alterations ($p < 0.05$). Significant association was also found between survival curves of smokers and nonsmokers patients considering the healthy side of the face ($p < 0.05$). The most relevant covariates identified by Poisson regression model were the side of the face, age, gender, smoke, and cholesteatoma. The proposed method can serve as an alternative procedure to statistical test for comparison of samples of discrete variables. This approach has the advantage of being more familiar to clinical researchers.*
- **KEYWORDS:** *Survival analysis; Kaplan-Meier; log-rank test; Tarone-Ware test; Peto and Prentice test.*

¹ Federal University of Rio de Janeiro, School of Medicine and HUCFF - University Hospital Clementino Fraga Filho, P.O. Box 68507, 21941-972, Rio de Janeiro, Brazil. E-mail: basilio@hucff.ufrj.br / felfelix@gmail.com / shiro@openlink.com.br

² Federal University of Rio de Janeiro, COPPE - Postgraduate School of Engineering, P.O. Box 68507, 21941-972, Rio de Janeiro, Brazil. E-mail: emilia@pep.ufrj.br