



Evaluation of Linked Determinants Between Diabetes and Caries

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Abstract. Dental caries and diabetes mellitus, represent two chronic diseases of public health that present statistics of high prevalence worldwide. One of the main problems that affect these conditions is demography, since the least developed countries are those that have less access to public health services and are limited by the economic costs that represent the treatments. In this work is presented the univariate analysis, of a set of demographic determinants obtained from the National Health and Nutrition Examination Surveys (NHANES), in order to identify those that present the most significant information related to estimation of these diseases. According to the results, the age of the subjects is the main determinant describing the simultaneous presence of these diseases, obtaining an area under the curve (AUC) value ≥ 0.846 , concluding that age can be used as tool for their preventive diagnosis.

Keywords: Dental caries · Diabetes · Demographic determinants · NHANES · Univariate analysis · General linear model

1 Introduction

Recent years have seen a rapid increase in global technological and economic potential and, as a result, the capacity to overcome problems related to poverty and poor health has increased. However, in many developing countries, the health situation has deteriorated, largely due to the reappearance of infectious diseases and the increased burden of non-communicable diseases such as caries and diabetes [3].

Oral health rarely endangers the existence of people, however, it directly affects their quality of life and their self-esteem, which establishes their importance as a fundamental part of the integral life of the population. Dental caries is a transmissible, infectious and multifactorial chronic disease, with a prevalence of 94% of people worldwide, regardless of age or socioeconomic level, represents a public health problem throughout the world [3, 17].