Internal Validation of Subjective Bayesian Model of the Occurrence of Alveolar Osteitis Cases, Generated by Expert in Kinshasa Hospital/DRC

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Abstract

Objective: To valid an Internal Model Subjective of Bayer by the case of alveolar osteitis generated by the Experts.

Methods: The qualitative method was carried out under form of integration group, with had eight experts. The selection criteria of experts were to be a professor at the faculty of Dental medicine, a master's degree in oral surgery, dentistry, periodontology, prosthesis and to be dental doctor with more than 20 years of occupation. Elaboration of SBM was carried out by three steps such as determination of a prior probability of quotient (APRIQ), determination of the likelihood ratio (LHR) and Determination of a posteriori probability quotient (APPQ. And SBM was validated in three stages: determination of the agreement degree of intra and inter experts; of Cutoff point (COP) and Internal validation. The agreement degree of intra and inter expert was determined by kappa statistics.

Conclusion: The Poor oral hygiene LHR3; post-operative infections LHR3, preoperative infections LHR4, were the most important identified factors predictive of occurrence of AO in our 8 dental hospital of D. R. Congo/Kinshasa city. The corrected of these three factors can contribute to reduce the frequency of that pathology in Kinshasa population.

An operation of oral surgery is relate primarily on the teeth, soft tissue and bone. Despite the advance of restorative dentistry and prosthetic rehabilitation techniques as well as periodontics, the dental extractions still a very common surgical practice in Africa.

In certain conditions, despite the perfect knowledge of the practitioner and mastering of the surgical plan, the surgical operations can be delicate and difficult to predict some complications during or after surgery. In the postoperative, the most frequent complications of dental extraction are inflammatory or infectious such as alveolar osteitis (AO), which includes the dry and suppurative alveolitis.

This study was initiated to identify 7 groups' factors of occurrence of AO by a mathematical model of Bayer, which is based on the opinions of experts who use the qualitative data. Clinical interest will be to help the clinicians use a mathematical model for the 7 predictive factors of AO such as non-modified factors (age and gender) and modified factors (poor oral hygiene, systematic diseases, infections, aseptic technique, lack of practitioner, the postoperative infections. However, it is possible to prevent the occurrence of AO in patients with the modified risk factors.

In some development countries, the dental extractions are often followed by postoperative complications, which result as a high morbidity of the patients. However, in Democratic Republic of Congo, no studies found from the literature have been initiated on the AO by using a mathematical model. From 2011, Muyembi et al. conducted a descriptive prospective and preventive study of AO in the Affiliated Hospital of Kinshasa University and the result of pattern occurrence of AO found was 13.3%. This is a sign that the AO relates are not only concern to the less educated person, but also in all class or category of the persons such as university workers, graduates or students of Kinshasa University, with morbid consequences that flow from it .

Thus, view the increase frequency postoperative of AO and its consequences of economic and social disability of the patient due days' work in the development countries and view the lacking information and training of the population of the Democratic Republic of the Congo for the good oral health, due to the decrease of dental surgeons in our country (one surgeons/4.865 population in Kinshasa Capital where there is a large population, estimated at 10,000,000 people); we have been asked to conduct a qualitative study on the determinants of the occurrence of AO in the eight major Dental hospitals of Kinshasa city.

The results of the mathematical model built will used for an elaboration of tree clinical decision, and will help us to reflect the prediction software of AO. Then, on the basis of this model, we will do an algorithm treatment of all oral diseases post-dental extraction.

Biography

It have more than 15 years of experience in medical and Pharma (incl. targeted therapy or immunotherapy) as well as other fields.