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Autor	DANIELLE CRISTINA TOMASI
Orientador	LUCIANA PAULA CADORE STEFANI

Universidade Federal do Rio Grande do Sul
Orientador: Luciana Paula Cadore Stefani
Autor: Danielle Cristina Tomasi

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Introduction

Surgical care is essential for the proper management of various clinical conditions. It is known that the interaction between surgical-anesthetic interventions and the patients' clinical condition can lead to unfavorable outcomes, especially inmajor procedures. In order to identifypatients at highest risk of complications and thus adopt strategies that improve the care provided, several models of surgical risk stratification have been developed.Ideally, these should be simple, reproducible and accurate. Unfortunately, none of the best-known risk stratification instruments had their validity tested for the Brazilian population. In view of this, a preoperative risk assessment model - SAMPE Model - was developed, incorporating 4 variables that were easily identified in the preoperative period (age, ASA classification, size and nature of surgery), having in-hospital mortality in up to 30 days as a primary outcome.This was developed by the retrospective analysis of data from 13,524 surgical patients of the Hospital de Clínicas of Porto Alegre, showing highprediction of death accuracy (area under the ROC curve = 0.913). The model was later validated in another sample of the same hospital (n = 7,253), confirming its accuracy (C statistic of the validation sample was 0.922).

Objective

To build and validate a national-based model of postoperative death probability within 30 days with based on the SAMPE Preoperative Risk Model. To develop an appfor smartphones that allows preoperative risk stratification by the new SAMPE Model.

Materials and Methods

Multicentric retrospective cohort studywith patients operated in five hospitals in Brazil. The variables age, ASA score, surgical degree (major or non-major) and nature (elective or urgent) will be evaluated for the SAMPE Model development. The primary outcome will be mortality in 30 days.

Expected Results

We believe that the new SAMPE model will present discriminative capacity similar to that of other classically used scores validated in the prediction of in-hospital death within 30 days, with the differential of having patients operated at national hospitals as a sample. In addition, the mobile application to be developed will provide a practical and easy-to-use tool for the identification of patients at greater risk of death postoperatively to the health professionals involved in perioperative care.