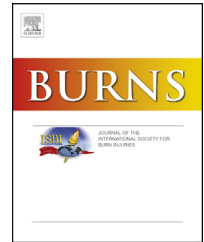




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Letter to the editor

Methodological issues on developing a novel scale for prediction of delayed intubation in patients with inhalation injury

Dear editor

We read with great interest the article by Matsumura K et al. entitled “A novel scale for predicting delayed intubation in patients with inhalation injury” that recently published in Jan 2020 issue of the Burns [1]. The aim of the authors was to examine developing of a novel scale, predicting the need for Delayed Intubation after inhalation injury (PDI) score [1]. For this purpose, patients with inhalation injury at four tertiary care centers were evaluated retrospectively. The predictive ability of the PDI score evaluated by the area under the receiver operating characteristic (AUROC) curve and it compared with other scaling systems for burn injuries, including total body surface area (TBSA), burn index and abbreviated burn severity index [1]. Based on the results of this study, signs of respiratory distress, facial burn, and pharyngolaryngeal swelling observed on laryngoscopy were identified as predictors for delayed intubation. The discriminatory power of the PDI was higher than other scaling systems (AUROC curve = 0.90).

Although this article has provided valuable information, but there are points in the concept of prediction and develop the score that can provide better results if presented. To develop a prediction model, score, etc. in a clinical setting, we should have a cohort study (with 2 groups or the ability to divide into failure and success groups) then to generalize it we need to validate our model by methods such as split file, bootstrapping, or other well-known validation methods. Second, when we have a qualitative variable in our study, failure to assay the interaction can confound and exaggerate the results. Lastly, the measures such as discrimination (AUC), calibration and reclassification to evaluate the model performance and statistically significance each of these do not guarantee prediction [2–7].

The authors concluded that their new scoring system could predict the need for delayed intubation in patients with

inhalation injury [1]. Briefly, in prediction studies, the main purpose is to provide a model, index, or score applicable to an individual (patient). Finally, associations, even those that are statistically significant, do not guarantee prediction [3,4]. In this letter, we discussed methodological issues in the study and suggest that any prediction study should consider the above mentioned methodological points [2–7].

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Mehdi Naderi

Clinical Research Development Centre, Taleghani and Imam Ali
Hospital, Kermanshah University of Medical Sciences, Kermanshah,
Islamic Republic of Iran

Siamak Sabour*

Chamran Highway, Velenjak, Daneshjoo Blvd, Department of
Clinical Epidemiology, School of Health and Safety, Shahid Beheshti
University of Medical Sciences, Tehran, 198353-5511 Islamic
Republic of Iran

* Corresponding author.

E-mail address: s.sabour@sbmu.ac.ir (S. Sabour).

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